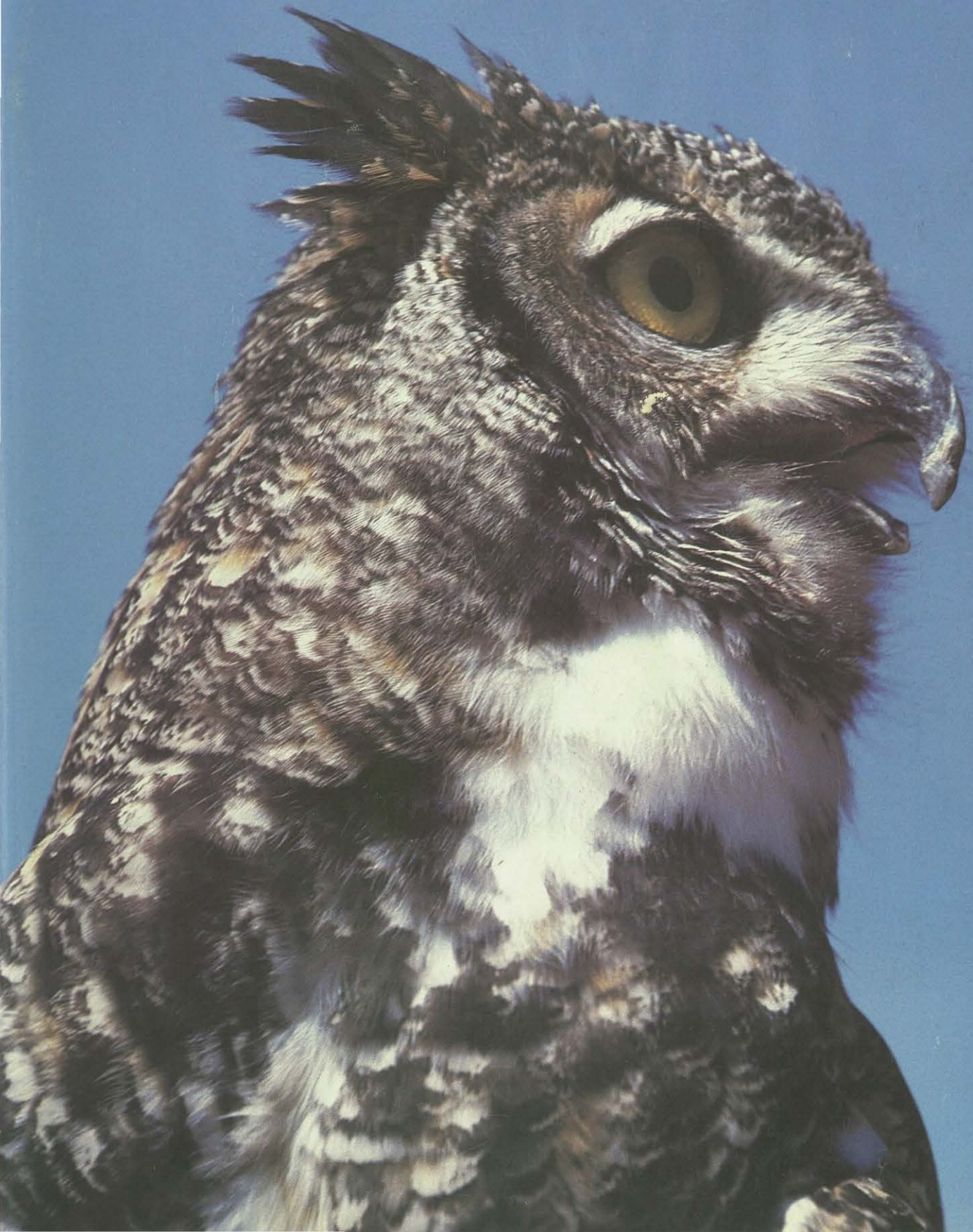


FLORIDA WILDLIFE[®]

Volume 42, Number 6

November-December 1988



HUNTER ORANGE



SAVES LIVES.



FLORIDA WILDLIFE®

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OUR COVERS

Lynn Stone photographed the great horned owl on the front cover of this issue. The Floridana column on the inside back cover highlights this magnificent bird of prey. William J. Weber took the captivating squirrel photo on the outside back cover.



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DUCK UPDATE

Why Duck Season Will Be Poor This Year

By Scott Ball

Blame it on the drought. But not entirely on the drought.

It was a hot, dry summer in the United States and Canada. Temperatures soared. Crops withered. Forests burned. Rain didn't fall. And ducks didn't nest.

The U.S. Fish and Wildlife Service (USFWS) predicted a fall migration of 66 million ducks. Only in 1985 did fewer ducks — 62 million — fly south.

In a 15-minute video program produced by the USFWS and distributed to state wildlife agencies, Director Frank Dunkle described how the drought and other environmental factors have contributed to the decline in waterfowl numbers.

Each spring and summer, waterfowl return to the marshlands and prairie potholes of the northern United States and Canada to pair up and build their nests. However, for several years, diminishing rainfall has caused those nesting areas to dry up. In addition, agricultural operations have been filling in wetland basins and turning them into wheat fields. Over the past four years, these factors have led to a record-low breeding population of ducks and poor fall migration.

In the video, a Canadian waterfowl biologist who flew over a transect (survey area) in 1987 and '88 reported some startling contrasts. In 1987 he counted 145 ducks; in 1988 he counted 10. Of those, 42 were mallards in 1987; in 1988, only six were mallards. This

particular transect contains 330 potential basins capable of producing waterfowl. He counted 66 ponds containing water in 1987; in 1988 all but seven were dry.

In those few northern areas where water was found, agricultural activity had removed much of the nesting cover necessary to produce a new generation of ducks.

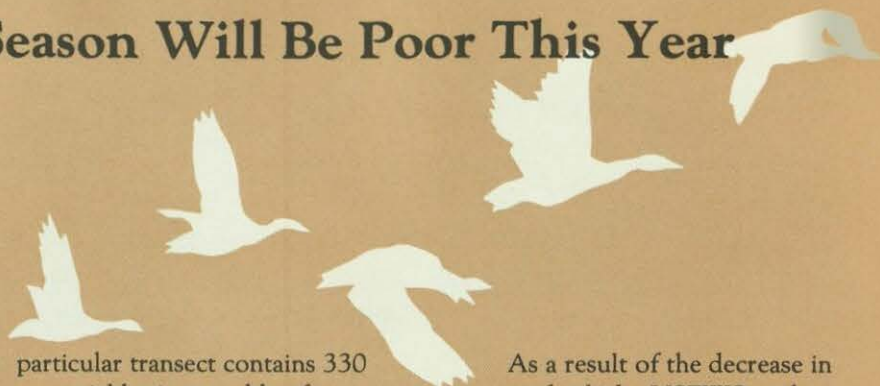
According to the video, the overall breeding population of waterfowl is 16 percent below the long-term average. This is not the result of one dry summer. This is the result of several years of diminishing rainfall coupled with a decrease in waterfowl nesting habitat.

Some waterfowl species actually have increased in number. Green-winged teal are up 46 percent, redheads 17 percent, shovelers 8 percent, gadwalls 2 percent and widgeon 1 percent.

Those gains are easily outweighed by those species showing a population decrease: mallards 20 percent, scaup 21 percent, canvasbacks 22 percent, blue-winged teal 25 percent and pintails 54 percent.

Drought conditions in migrating and wintering areas also affect duck populations. Waterfowl become concentrated in the few wetland areas that haven't dried up. This increases the likelihood of disease and makes them weaker when it's time to fly north again in the spring. The weakened ducks are also more susceptible to hunting.

As a result of the decrease in waterfowl, the USFWS took steps to reduce the harvest during the fall season. The daily bag limit for Florida's early duck season was restricted to three wood ducks and



no other species. Regular duck season lengths were reduced 25 percent in all flyways. In the Atlantic Flyway, which includes Florida, that meant a drop from 40 days to 30 days. To reduce the risk of shooting the wrong species, shooting hours were shortened, eliminating the half-hour before sunrise when it's tougher to identify ducks. The point system was suspended, pending further review, and a basic daily bag limit of three ducks, with some restrictions on certain species, was established.

According to Fred Johnson, waterfowl management coordinator for the Game and Fresh Water Fish Commission, the short-term outlook for the situation is dim.

"It looks like things will get worse before they get better," Johnson

said. "I understand it will take three years of average rainfall to restore the prairie pothole nesting areas in the northern United States and Canada. The USFWS may be even more restrictive with duck-hunting regulations next year."

For the long term Johnson is more optimistic.

"The United States and Canada have drawn up the North American Waterfowl Management Plan, which I believe is the most aggressive initiative ever designed to reestablish waterfowl populations," he said. "The plan's goal is to restore waterfowl populations to what they were in the 1970s, when ducks were plentiful."

The plan will cost billions of dollars to implement — more money than the governments of the

United States and Canada have available for this ambitious project. However, national organizations such as Ducks Unlimited and local grass roots groups are already working on ways to raise money to supplement government funds.

Let's hope the plan and the fund-raising efforts work.

And let's hope it rains.

Scott Ball is an information specialist for the Commission. He writes feature stories and news releases, produces an agency newsletter, is the administrator for the Wildlife Alert Program and provides information to the news media and the general public.



PHOTOGRAPH BY IRENE VANDERMOLLEN

Cashing in on the Sunshines

By Lt. Jim Farrior, South Region

Sometimes the sun shines, sometimes it doesn't. But when this "sunshine" comes out, a fisherman can count on a good time, no matter what the weather.

This sunshine is the sunshine bass, a selectively-bred gamefish that the Commission stocks in lakes, reservoirs and rivers throughout the state.

Both striped bass and sunshine bass can easily be identified by their silvery color and black lateral lines which run the full length of the sides. Sunshines range from 13 to 30 inches long and have weights exceeding 16 pounds. They have the potential for growing two or three pounds per year.

Sunshines are produced by spawning, or crossing, the striped bass with the white bass. What results is a fast-growing, hard fighting gamefish that biologists can control because it is incapable of reproducing in Florida lakes.

Each year the Commission raises millions of these hybrids for freshwater stocking. Because of their growth rate, sunshine bass are available to the angler in less than a year. Growing them to a harvestable size this fast makes an especially nice addition to heavily fished lakes.

Sunshines can reach harvestable size within nine months when sufficient forage is available. Shad are an open water baitfish and a favorite meal of sunshines. Therefore, an abundant shad population is important in determining where to stock sunshine bass.

Since shad inhabit open water, this is often where a fisherman will find sunshine bass. Yet, locating and fishing for these scrappers can be tricky for most anglers.

Sunshines can frequently be located by watching for schools of baitfish striking the water's surface. Another way to locate sunshines is to watch for birds diving into the water to catch the shad. When birds and bait are active, it's almost certain that sunshines will be nearby.

This linesider can also be found by locating moving water. Sunshine bass prefer water that is not stagnant, since moving water carries lots of food. Look just below a dam on a river for a likely fishing location. In a lake with little or no flow, look to the wind as the source of water movement. Canal or creek bottlenecks at the juncture of two lakes can also be a source of water movement. Where this flow empties is the most likely spot to fish for the sunshine bass.

The daily bag limit of sunshine bass is 20.

Rain can also create flow where none previously existed. After a rain, creeks and ditches swell with water that ultimately drains into a lake. Sunshines move to these places to take advantage of abundant food. Another good spot is where water is being pumped into a lake.

Now that you know how to find them, how do you catch these fighters?

The three most commonly used techniques are trolling, casting artificials, or fishing with live bait.

Trolling is also an effective method in locating sunshine bass. Dragging an artificial lure or live bait

behind a boat moving at idle speed covers a great deal of territory. However, once you catch one, it might be best to abandon this technique. Since there are usually more fish swimming in the same area, anchor or let your boat drift. Now start casting bait or shad-type lures. If this doesn't pay off, just start trolling again.

Although their preferred forage is shad, sunshines will eat just about any kind of minnow, crayfish or grass shrimp. Fishing the bottom with shiners, grass shrimp, saltwater shrimp or Missouri minnows can get results.

Any of these baits can be free-lined, fished on a weight, or more commonly, fished under a float. When using a float on more than one rod, vary the depths at which the baits hang. When a fish is hooked at a depth you can determine, slide the other floats to that depth. The fish are probably positioning at just that depth, so that's where your bait should be.

Weights are more commonly used when fishing in very swift currents. This is a favorite technique with anglers on the Apalachicola river, particularly just below the Jim Woodruff Dam.

However, this is not the most productive style for South Florida lake fishing. Free lining a minnow or grass shrimp meet with much more success in South Florida's lakes.

Another technique is using minnows at night with a bright light as a fish attractor. I think this method might have been discovered by those speckled perch fishermen who had lost too many cane poles when sunshines grabbed the minnow baits. Since sunshines are

more active at night during the cooler weather, the following technique may be productive.

Select an open water area where sunshines are likely to be found. A good rule of thumb is if you catch specks there, it's probably a good spot for sunshines. Hang a light over the side of the boat and begin drifting with a free swimming bait. Floats can be positioned where the light shines into the water. Light attracts microscopic organisms which in turn attract bait fishes, which will hopefully bring the sunshines.

Fishermen using this technique should be sure to leave their boat's running lights on at all times.

When using artificial lures, remember that sunshines are omnivorous, but the closer the lure imitates a shad, the more likely it is to be eaten. Sunshines can also be taken using rubber worms, spoons, jigs and spinner-fly lures.

In 1988 more than 3.2 million fingerlings were stocked.

In selecting the type of artificial bait to be used, consider the depth that the sunshines are feeding and

the size of forage in the area where you are fishing.

Surface lures are the bait of choice when sunshines are on the top, busting shad.

As the fish goes down, switch to crank baits, diving plugs, spinners or spoons. These are also the best baits to troll while trying to locate sunshine bass.

When water temperatures rise in warmer weather, sunshines will be found in deep water, hugging the bottom. That's the time to put on a jig or something that can be bumped along the bottom. Feathers or grub tail jigs work equally well.

Spinning, casting, fly fishing and even cane poles are all functional methods when fishing for sunshines. Cane poles must be rigged with heavier line to hold these fighters. It is tough to land one on light line, but you'll get more strikes and have more fun than when using a heavy-action rod. But be sure to adjust the drag because, unlike largemouth bass, the sunshine will take off. When they do, something will have to give, and if it's not the drag, it will be the line.

The Commission does have regulations restricting the harvest of sunshine bass. Each angler is allowed only 20 sunshines (singularly or in the aggregate of white bass or striped bass) per day. The possession limit is two days bag limit. No more than six of the daily bag limit may exceed 24 inches in total length.

The sunshine bass has proven to be a popular choice at the fisherman's dinner table, as well as in the fisherman's creel. As a result, these scrappy, good-tasting fish have become a valuable addition to Florida's freshwater fishing resources.

GFC regularly stocks these bodies of water to provide consistent sunshine bass harvest: Apalachicola River (near Tallahassee), Escambia Bay, Lake Harris chain, Lake Seminole, Lochloosa Lake, Newnans Lake, Saddle Creek Lakes and St. John's River. Additional lakes and rivers in your area may be stocked seasonally. Check with your closest Commission regional office for more information.



PHOTOGRAPH BY WILLIAM A. GREER

Hunter Education News

Compiled By Captain Ed Tyer
Hunter Education Coordinator

1987-88 HUNTING ACCIDENTS

The following is a list of firearm-related hunting accidents that occurred during the 1987-88 hunting season. These accidents were reported to and investigated by the officers of this agency. The number of accidents will vary from year to year with no apparent reason. Five accidents resulted in fatalities.

Since most firearm accidents occur in the home, all firearm owners must practice safe gun handling and storage techniques. While reading through these accident summaries try to relate your gun handling practices to each incident. Could you have been one of these statistics?

Day/Date	Time	Age of Shooter	Firearm	Distance	Game Sought	County	Circumstances
Friday 10/16/87	8:45 a.m.	23	Muzzleloader	Less than 1 yard	Deer	Orange	Victim was in a tree stand with his hands propped over the muzzle of his gun. The gun discharged. The bullet penetrated his left wrist, right hand and right temple area. He fell 25 feet from the stand.
Friday 10/23/87	2:00 p.m.	66	Shotgun	Less than 1 yard	Dove	Palm Beach	Victim was pulling his gun over the front seat of the car when it discharged. The shot struck him in the foot.
Sunday 11/08/87	4:00 p.m.	36	Muzzleloader	Less than 1 yard	Deer	Jackson	Victim was loading his muzzleloader to start hunting. The gun discharged as he was pushing the bullet down the barrel. The ramrod was fired out, injuring the victim's thumb and two fingers on his left hand.
Sunday 11/08/87	5:15 p.m.	16	Muzzleloader	Less than 1 yard	Deer	Nassau	Victim had just shot a deer, but deer was not dead and started to get up. Victim used his loaded and cocked muzzleloading rifle for a club. When he hit the deer his gun discharged, striking him in the knee.
Saturday 11/14/87	9:30 a.m.	45	Shotgun	Over 100 yards	Deer	Leon	Victim was placed on a tree stand and told to stay there. He moved about 200 yards. Shooter shot at a deer and hit victim beyond his target.
Saturday 11/14/87	Unknown	16	Shotgun	Unknown	Unknown	Gadsden	Victim and shooter were hunting together. Shooter heard something running through the woods. He shot, hitting victim in the back and arm.
Saturday 11/14/87	Unknown	17	Shotgun	Less than 1 yard	Unknown	Gadsden	Victim was walking in the woods carrying his shotgun when it discharged. The shot struck him in the foot.
Sunday 11/15/87	6:30 a.m.	26	Rifle	Less than 1 yard	Deer	Walton	Victim was deer hunting, heard a noise and thought it was a deer. He cocked his rifle and started walking. His gun discharged and the bullet struck him in the foot.
Sunday 11/15/87	3:30 p.m.	24	Shotgun	Over 100 yards	Deer	Pasco	Shooter was standing on his truck 490 feet from victim when a deer ran across the road between them. Victim was struck in the arm by one pellet.
Sunday 11/15/87	4:30 p.m.	30	Shotgun	51 to 100 yards	Turkey	Jefferson	Victim was sitting at base of a tree when shooter walked by him. Victim did not speak to shooter. Shooter sat down, observed movement for 10 minutes, thought it was a turkey and shot.
Thursday 11/19/87	8:00 a.m.	32	Rifle	51 to 100 yards	Deer	Hamilton	Shooter observed victim with a tree stand on his back and mistook him for a deer.

Thursday 11/19/87	9:30 a.m.	27	Handgun	Less than 1 yard	Deer	Osceola	Victim did not uncock his pistol before placing it in his holster. He fell and the gun discharged. The bullet struck him in the leg.
Saturday 11/21/87	2:00 p.m.	29	Shotgun	21 to 50 yards	Squirrel	Santa Rosa	Victim was applying mosquito repellent. Shooter mistook him for game and shot him in the side and face.
Tuesday 11/24/87	5:30 p.m.	49	Shotgun	11 to 20 yards	Deer	Wakulla	Shooter saw movement in bushes and mistook victim wearing brown vest for deer. Victim was shot in back and head.
Thursday 11/26/87	7:15 a.m.	12	Rifle	21 to 50 yards	Turkey	Clay	Shooter and mother were hunting for turkeys. Shooter heard a noise he thought was a turkey. He fired and hit victim. Fatal.
Friday 11/27/87	8:30 a.m.	—	Shotgun	21 to 50 yards	Deer	Dixie	Several hunters shot at a deer that ran into the woods where victim was. Shooters did not know victim was in the area. One buckshot hit victim in his arm.
Sunday 11/29/87	10:00 a.m.	—	Rifle	Unknown	Deer	Gilchrist	Victim moved from her stand and was accidentally shot by one of her hunting party. Fatal.
Sunday 11/29/87	5:30 p.m.	9	Rifle	Less than 1 yard	Deer	Hillsborough	The victim was in the back of a pickup. While unloading his rifle it discharged. The bullet struck a spare wheel. The bullet fragmented and bounced back, hitting the victim.
Thursday 12/03/87	3:00 p.m.	12	Handgun	Less than 1 yard	Squirrel	Volusia	Child took father's pistol to hunt squirrels (without permission or supervision). He sat down with the gun in his lap. As he picked it up with his thumb on the trigger the gun discharged, striking him in the shoulder.
Thursday 12/10/87	8:30 a.m.	19	Shotgun	21 to 50 yards	Deer	Escambia	Victim was following a deer when shooter saw the deer and shot. The victim was out of sight of shooter.
Sunday 12/13/87	2:08 p.m.	10	Shotgun	2 to 5 yards	Squirrel	Santa Rosa	Victim was walking in front of the shooter. The shooter fell. His gun discharged, striking the victim in the back. Fatal.
Friday 12/18/87	5:00 p.m.	16	Rifle	Less than 1 yard	Deer	Calhoun	When victim picked up his firearm the trigger caught on a limb. The gun discharged, striking the victim in the abdomen.
Monday 12/21/87	9:00 a.m.	40	Shotgun	21 to 50 yards	Turkey	Okeechobee	Shooter heard victim calling turkeys and mistook him for game. Fatal.
Monday 12/21/87	3:30 p.m.	14	Shotgun	Less than 1 yard	Deer	Calhoun	The hunter was coming down the tree when his shotgun went off, striking him in the right foot and ankle.
Saturday 12/26/87	11:00 a.m.	22	Rifle	Less than 1 yard	Deer	Sumter	Victim was climbing a tree carrying his loaded and cocked rifle in his belt. When he reached for the gun it discharged, hitting him in the foot.
Sunday 01/03/88	10:00 a.m.	13	Shotgun	2 to 5 yards	Unknown	Columbia	Shooter and victim were walking together. Shooter attempted to put "safety" on, the gun discharged. Victim was struck in his shoulder.
Sunday 01/03/88	2:50 p.m.	29	Rifle	2 to 5 yards	Deer	Citrus	Victim had laid his rifle down. It discharged for no apparent reason.
Monday 01/25/88	10:30 a.m.	17	Rifle	2 to 5 yards	Rabbit	Hillsborough	Victim gave the rifle to the shooter loaded. Shooter didn't know gun was loaded, accidentally pointed gun at victim and it discharged. The bullet struck the victim in the chest.
Saturday 02/06/88	7:00 a.m.	37	Rifle	Less than 1 yard	Deer	Escambia	Victim was hunting from a tree stand. His muzzleloading rifle slipped from his grasp, the hammer hit the stand and the gun discharged. The bullet struck the victim in his right bicep.

Sunday 02/07/88	Noon	20	Rifle	Less than 1 yard	Deer	Escambia	Victim was reloading his muzzleloader after firing it. The powder ignited when he poured it into the muzzle, causing burns to right hand and face.
Friday 02/19/88	Noon	29	Rifle	Less than 1 yard	Deer	Walton	Victim was attempting to remove loaded and primed muzzleloader from his truck by pulling it towards him, barrel first. Gun discharged, striking victim in lower chest. Fatal.
Thursday 03/24/88	6:18 a.m.	—	Shotgun	21 to 50 yards	Turkey	Liberty	Victim was in a ravine in a bay head, attempting to cross a small spring. Shooter was standing above victim and shot, striking victim in head and chest. Victim called out to shooter that he had been shot and needed help. Shooter did not respond. Victim then drove himself to the hospital.
Saturday 03/26/88	7:15 a.m.	51	Shotgun	21 to 50 yards	Turkey	Highlands	Shooter shot at a gobbler, hit victim who was in line of fire. Victim was wearing camouflage and could not be seen by shooter.
Saturday 03/26/88	8:30 a.m.	61	Shotgun	21 to 50 yards	Turkey	Dixie	Shooter saw a turkey's head, shot and hit victim carrying a turkey he had killed.
Saturday 04/02/88	8:30 a.m.	—	Shotgun	2 to 5 yards	Turkey	Wakulla	Shooter, victim and third party were hunting together. They split up with shooter staying at edge of area. After a time victim and third party were coming back in, calling on a turkey caller as they walked. Victim was mistaken for a turkey and shot in the face and chest area at approximately six feet.
Sunday 04/03/88	6:50 a.m.	37	Shotgun	21 to 50 yards	Turkey	Union	While climbing a fence shooter accidentally knocked over his shotgun causing the firearm to discharge. Victim was walking behind shooter and was struck with shot.
Monday 04/04/88	7:30 a.m.	41	Shotgun	21 to 50 yards	Turkey	Leon	Two were hunting gobblers together, but separated. Both individuals ended up seated about 40 yards apart and both were yelping. The shooter decided that the victim's outline looked like a turkey and he aimed and shot him. Wound was to the right side of the head.
Sunday 04/24/88	8:30 a.m.	41	Shotgun	21 to 50 yards	Turkey	Nassau	Shooter and victim were hunting turkeys in same block of woods. Shooter was in slough when he heard rustling noises in brush and yelping. He fired at what he thought was a turkey and struck victim in left side of body and face.



Delicate Balance



Subspecies: Florida Pine Snake (*Pituophis melanoleucus mugitus*)

Florida Status: Species of Special Concern

The Florida pine snake is one of 10 subspecies of a species that occurs in xeric (dry) habitats from coast to coast in the United States. These large, stocky, powerful constrictors are commonly referred to as gopher snakes in the Pacific states. In the Midwest and prairie states they are called bull snakes and in the eastern states, they are called pine snakes.

The range of the Florida pine snake includes southern Alabama, Georgia, South Carolina, southeastern North Carolina and all of Florida with the exception of the southern tip.

The Florida pine snake is a pallid version of its northern relatives. Although somewhat variable in color patterns, this subspecies is usually sand-colored, overlaid by tan or rusty brown blotches that become better defined toward the tail. Pine snakes range from 14 to 21 inches in length at hatching and may attain a maximum adult length of 90 inches. The normal length is 36 to 66 inches.

Pine snakes differ from similar-sized rat snakes and kingsnakes by their disproportionately small heads and the presence of four prefrontal scales (between the nostrils). Most Florida snakes have two prefrontals.

Prodigious burrowers, pine snakes are adapted for digging with their pointed, spade-like snout and enlarged rostral scale (nose). These burrowing snakes spend up to 85 percent of their time in a subterranean world of cavities and tunnels, often in association with southeastern pocket gophers (*Geomys pinetis*) or gopher tortoises (*Gopherus polyphemus*). Pine snakes prefer habitats with easily excavated, sandy subsoil, particularly longleaf pine and turkey oak sandhills. They also inhabit sand pine and oak scrubs,

pine flatwoods, and to a lesser extent, dry hammocks, coastal dunes, golf courses and unimproved pastures.

Southeastern pocket gophers and other rodents are the preferred prey of the Florida pine snake. Cotton rats, eastern harvest mice, oldfield mice, cotton mice and Florida mice make up the bulk of their diet. Opportunistic hunters, the snakes supplement their small mammal diet with both small birds and their eggs. Typical of constrictors, pine snakes dispatch their prey by administering a succession of asphyxiating body coils. Young pine snakes hunt smaller prey such as six-lined racersnakes, Florida scrub lizards, eastern fence lizards, mole skinks and southeastern five-lined skinks.

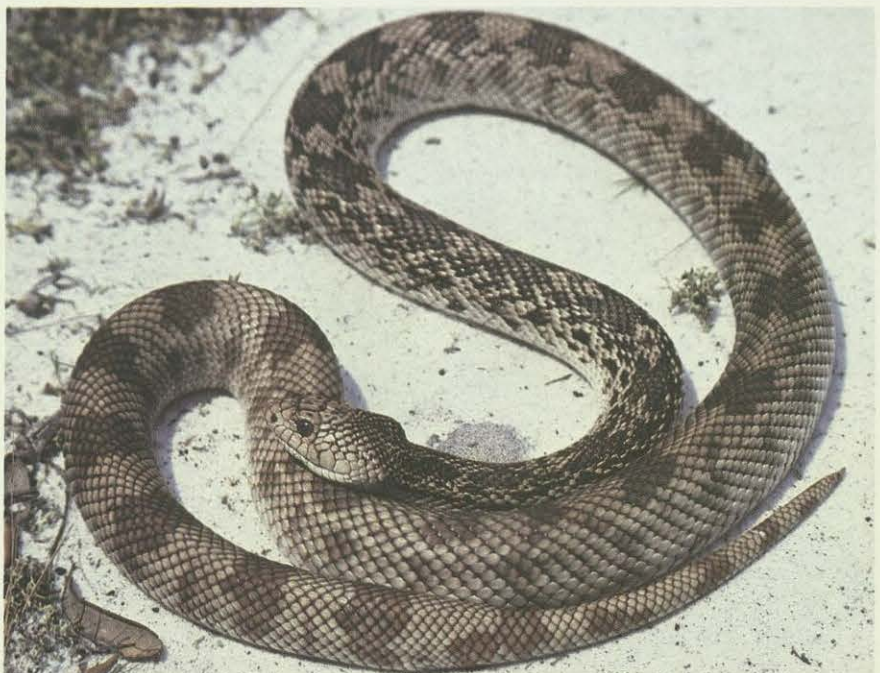
Pine snakes select nest sites in open clearings where ground and tree cover is sparser and the soil is soft. They either excavate their own burrow or utilize one originally dug by a pocket gopher or gopher

tortoise. They breed in late winter or early spring and subsequently lay a clutch of four to eight eggs in mid to late summer. The incubation period is 60 to 80 days.

Widespread loss of habitat through development and conversion of citrus groves contributes to the population decline of the Florida pine snake. The past exploitation of the gopher tortoise and rattlesnake hunters' use of gasoline to force snakes out of tortoise burrows undoubtedly helped reduce the numbers of pine snakes in Florida.

Preservation of our state's besieged dry habitats, conservation of gopher tortoise populations and further pine snake research are all needed to stem the continued decline of this beautiful and unique snake. As a Species of Special Concern, the Florida pine snake warrants specific protection by the Florida Game and Fresh Water Commission.

—Brian R. Toland



De Soto Introduces Swine to the Southeast

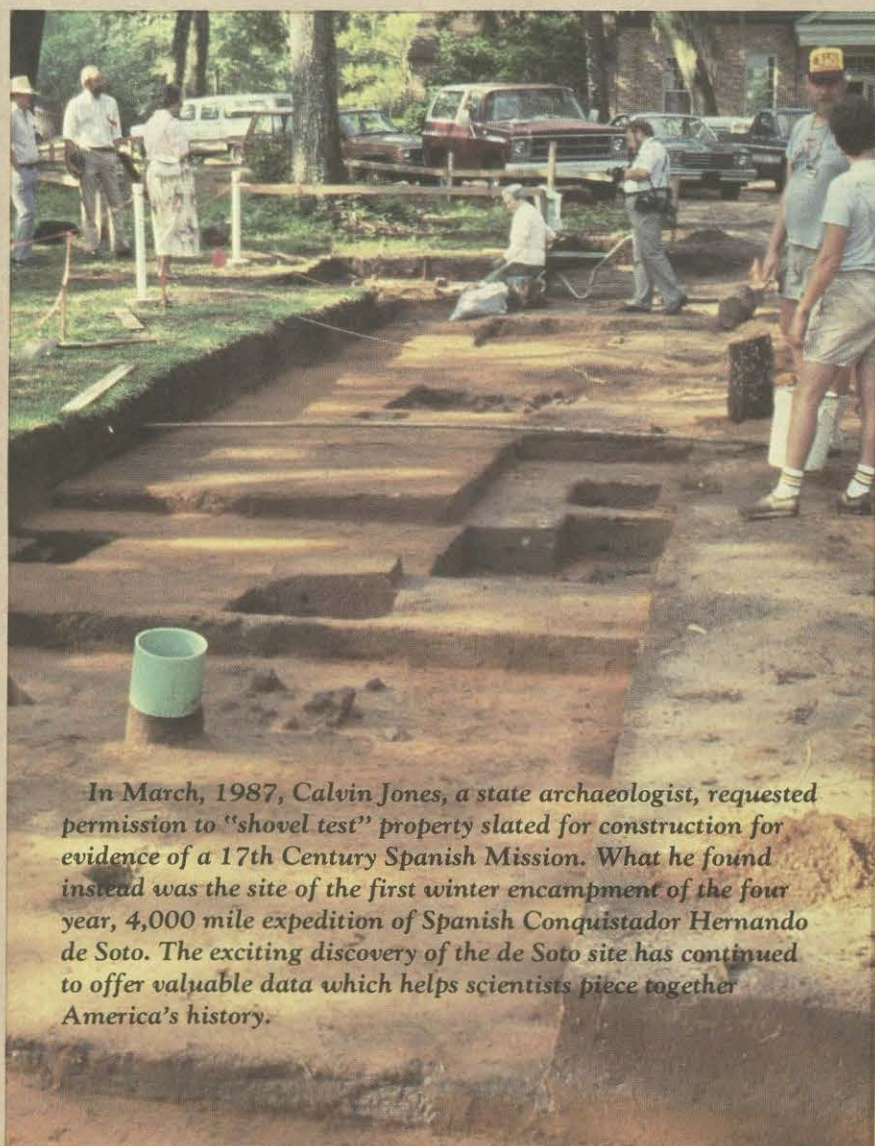
By Barbara Burkett Doran

A pig jawbone fragment, unearthed a year ago at an archaeological site near downtown Tallahassee, helped confirm the big question, "Can we be sure that this site is a portion of the 1539 winter encampment of Hernando de Soto and not remnants of an earlier ill-fated expedition?"

Dr. Charles Ewen, de Soto archaeological project director explains, "Eleven years before the de Soto expedition, Panfilo de Narvaez explored the coast somewhere near St. Marks and nearly starved to death. Narvaez and his men ate leather items and their horses to stay alive until their failed attempt to return home."

Hernando de Soto, explorer, conquistador and governor of Cuba and La Florida, tried to profit from the mistakes of this earlier expedition and, unlike Narvaez, he provisioned his troops with a herd of hogs. He planned to use the quick breeding animals to feed his conquistadors during the expedition and to leave hogs at any settlements that might be established along the way.

So, in November, 1987, when an excavator uncovered the pig fragment near a structure, Dr. Ewen remembers that, "We were excited but cautious because there are later occupations at the site and we



In March, 1987, Calvin Jones, a state archaeologist, requested permission to "shovel test" property slated for construction for evidence of a 17th Century Spanish Mission. What he found instead was the site of the first winter encampment of the four year, 4,000 mile expedition of Spanish Conquistador Hernando de Soto. The exciting discovery of the de Soto site has continued to offer valuable data which helps scientists piece together America's history.



Sixteenth century Spanish wrought iron nails.

wanted to be sure that the bone dated to the de Soto occupation. All surrounding artifacts were from the de Soto period, thereby confirming the pig bone artifact."

Pigs, which are not indigenous to the New World, were first introduced by Columbus. On his second voyage in 1493, he brought eight pigs to Espanola. Hogs continued to be imported, bred and used to populate other Caribbean islands including Cuba, where de Soto and other 16th century explorers obtained them for their American expeditions.

Accounts differ on the number of hogs that de Soto brought, perhaps as few as 11 or possibly a herd up to 300. All accounts agree that the breed was hardy and multiplied quickly. As hogs escaped or were traded to the Indians along de Soto's expedition route throughout the Southeast, feral herds were established.

De Soto landed somewhere near Tampa bay in May 1539 with a grand quest. He intended to conquer what is now the southeastern United States, believing he would find riches exceeding Pizarro's conquest in Peru. He died in pursuit of this dream.

His troops hacked and slogged their way through undergrowth and swamps. They gave pigs and other



This early 16th century Spanish coin (four maravedis) was minted specifically for use in the New World.



A bolt tip (quarrel) to a crossbow was one of the many artifacts unearthed.



Fragments of a jawbone (mandible with teeth) excavated at the de Soto site.



Photography credits from left to right: K C Smith, Dr. Charles Ewen.
From top to bottom: Roy Lett, K C Smith, Dr. Charles Ewen.

European trade items to native Indians then enslaved members of the tribes to serve as beasts of burden. In October, 1539, he reached Anhaica (present day Tallahassee area) the main town of the Apalachee Indians. Firsthand accounts of the expedition describe Anhaica as a village with some 250 structures, surrounded by fields of corn as far as the eye could see. De Soto and his followers occupied these recently abandoned buildings.

Excavation revealed partial evidence of two structures. Written accounts also tell of efforts to fortify the village because of Apalachee raids. Portions of the village had been burned at least twice.

The expedition wintered there and, because de Soto had priests with him, it is probable that the first Christmas ceremony in the continental U.S. was celebrated there.

Warmed by spring weather of 1540, de Soto's expedition pushed northward in search of gold and riches. Like many campers before and since, they left behind their trash and various lost and discarded items. These artifacts, discovered in the red clay of Leon County, help archaeologists reconstruct what life was like. Fragments of chain mail armor, beautiful blue glass chevron beads, coins, wrought iron nails, an iron point from a crossbow bolt and the pig jawbone are part of the conclusive evidence of de Soto's travels through Florida.

One record of the expedition suggests that de Soto did not allow indiscriminate killing of the pigs. They were to be saved for trading, settlement and emergency food supply. Garcilaso de la Vega's narrative even suggests that the Spanish explorers acquired a taste for dog meat, introduced to them by the local Indians. Why then, is there a pig jawbone at this site? Could it have died naturally? Was it part of a special feast at Christmas? Was it given to the Indian chiefs?

Dr. Ewen thinks "There are myriad possibilities but the importance is that it is here and helps validate this as the de Soto site."

The expedition continued and the explorers reached present day Alabama where two battles ensued.

"Evidently they lost most of the pig herd at the second battle," Ewen relates. "Apparently the pigsty burned, but some piglets squeezed through the fences and escaped. During the fierce battle and burning of the Spanish camp, one description tells how the air filled with the smell of roasted pork and squealing sounds of pigs as they roasted to death. There was a 'river of fat' flowing away from the holding pens."

Some of the remaining herd went west with the expedition. On May 21, 1542 de Soto died and was laid to rest at the confluence of the Arkansas and Mississippi rivers. The

remaining Spaniards tried to make their way across Texas to Mexico, using the herd as a food source, but eventually turned back and went down the Mississippi and along the Gulf Coast to a settlement at Tampico, Mexico.

A small fragment of Spanish pig bone, seemingly insignificant, traces the steps of de Soto's expedition and marks part of a dramatic change 449 years ago. This change includes the introduction of swine in Florida and the Southeast.

The legacy de Soto left was dramatically different from his quest. His expedition is vitally important because he was the first European to penetrate and explore the interior of the Southeast. Unfortunately he brought with him cruel 16th century methods of conquest, and, tragically for the natives, European diseases. These diseases decimated native populations that had lived and prospered for thousands of years before 16th century discovery.

The Trust for Public Land initially secured the de Soto site until the State of Florida could complete land acquisition procedures. On September 29, 1988 the purchase was completed and the site placed in public trust.



How Wild Are Florida's Feral Hogs?

By Barbara Burkett Doran

The semi-wild descendant hogs from de Soto's and other 16th century

expeditions stayed pure until the late 1800s when introduction of domestic hogs from other European countries began," tells Bill Frankenberger, wildlife research biologist, at the Commission's Gainesville Wildlife Research Laboratory.

Wild hogs, hunted in Florida today, were first introduced to the Southeast during the 1539-43 expedition of Spanish explorer Hernando de Soto. Part of the provisions from Cuba that de Soto brought to La Florida were range hogs (*Sus scrofa*) originally imported from Spain.

Written accounts, shortly after de Soto's expedition, tell of the wild hogs proliferating in Florida and the Southeast.

"There are short-term and long-term feral hogs," Frankenberger explains. "The short-term have some domestic characteristics such as color patterns, large floppy ears and a curled tail. A long-term feral is black or darkly colored with relatively long legs, a long snout, short upright ears, a dense coat of hair and a straight tail. Newborn wild pigs are dark reddish."

A population of wild hogs with no new domestic breeding will gradually evolve back, losing domestic characteristics, according to Frankenberger. There are some areas in south Florida where there is little evidence of domestic introduction and the hogs look like the dark wild hogs of Spain.

"When you get into Eastern Tennessee and Western North Carolina the wild hogs have more

pure European wild boar blood than anywhere else," Frankenberger said. "You see very few domestic traits."

Until 1952, Florida had "open ranges" and hogs roamed freely, crossbreeding with domestic stock. Landowners registered ear cuts for their stock with the county.

The population of feral hogs in the state varies statewide, but Carlton Chappell, assistant chief of wildlife management at the Commission, estimates that there are some 250,000 hogs in Florida.

Wild hogs forage in the woods for a variety of food sources, and are referred to by different names in different locations. Their body shapes and diet have led to descriptive names that include "potato diggers," "land pikes," "alligators," "wind-splitters" and "razorbacks."

"Razorback is an old southern cracker name for wild hog," Frankenberger explains, "because when they get thin their back bone sticks out."

"Piney wood rooter" is a popular nickname which relates to the feeding behavior of the wild hogs, rooting around the woods.

"This feeding behavior is often a nuisance since they uproot seedling trees, roads and get into campground garbage," Frankenberger said. "They also root up pastures and get into corn, watermelon and peanut crops as well."

Hunting season helps reduce the wild hog population. Based on a random mail survey of licensed

hunters, Chappell estimates that 50,000 to 60,000 hogs were killed last year.

In most of Florida, wild hogs are considered domestic animals and are the property of the landowner upon whose land they occur; however there are some areas where wild hogs are legal game and may be taken only during the archery, muzzleloading gun and general hunting seasons. Information on those locations and hunting seasons is available in the 1988-89 Florida Hunting Handbook or by contacting regional Game and Fresh Water Fish Commission offices.

Those offices also have information for hunters concerning swine brucellosis. Studies of Florida's wild hog population revealed the possibility that a significant percentage of the population could have brucellosis. Hunters can become infected with the disease by exposing an open wound when they dress their kill.

Precautions which may reduce risk include wearing disposable plastic or rubber gloves; avoiding direct contact with blood whenever possible (particularly oral contact); washing with soap and hot water; burying or burning gloves and remains from dressing the hog; and cooking meat thoroughly.

For 449 years, hogs have managed to survive and thrive in the wild and continue to provide hunters a source of food and sport.

Barbara Doran is a free-lance writer and owner of BND Freelance Services in Tallahassee.



PHOTOGRAPH BY JAMES C. GREEN

Fishing Clinic for Kids

By Mark A. Trainor

"I've got one, I've got one!" yelled a young fisherman as he quivered while reeling in a hand-sized bluegill. "Wow, this is the first fish I've ever caught! Can I take it home to show my mom and dad?"

This young angler experienced the same thrills of many of the 1,000 Jacksonville-area children who participated this summer in a pilot urban fishing program conducted by the Aquatic Education section of the Florida Game and Fresh Water Fish Commission.

The program is designed to educate urban children in basic aquatic conservation concepts, outdoor ethics, aquatic safety, fishing skills and to provide fishing experiences.

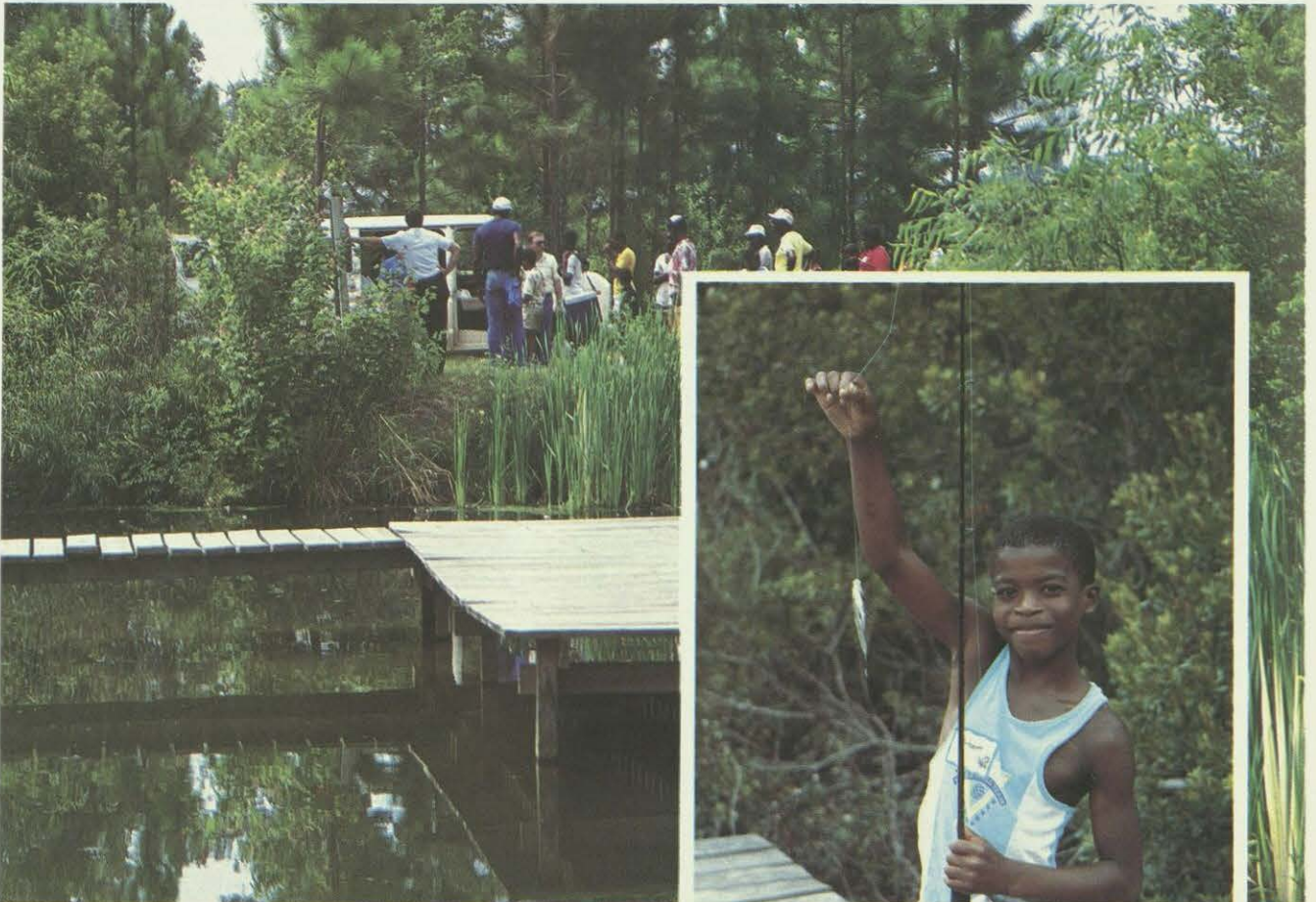
Each day for seven weeks, nearly 25 children aged 8-13 participating in the Jacksonville Parks and Recreation Department's summer program were transported to the Oceanway Fish Management Area for a four-hour clinic.

During the clinic, Commission instructors taught the children about fishes' needs for clean water and good habitat; the major types of freshwater fishes in Florida; fishes' body parts; how and where fish live; and angling safety and ethics. Children also received hands-on instruction in knot tying and casting a rod and reel.

After absorbing the instructor's every word, the children were ready to put their new-found knowledge

to practical use. It was time to go fishing.

Mark A. Trainor, the Aquatic Education Coordinator for the Florida Game and Fresh Water Fish Commission, developed the urban fishing program, which was initiated this summer in Florida. The program is funded through the Sport Fish Restoration Program. Funding comes from excise taxes on boating and fishing equipment, duties on imported boats and tackle and motorboat fuels purchased by fishermen.



PHOTOGRAPHS BY WILLIAM A. GREER

Alligators: Dragons in Paradise

By Kathleen V. Brown

Ever since humans first entered Florida 12,000 years ago, the mystique of these fearsome, primeval reptiles has riveted the attention of both visitors and inhabitants. For centuries, the alligator has provided food, leather, and the material for countless legends, myths and tall tales—so much so that it is often difficult to separate the real animal from the mythical beast.

"Alligators: Dragons in Paradise," explores humankind's enduring fascination with the alligator and its symbolic and sociological roles in Florida's history. This popular traveling exhibit, produced by the Historical Association of Southern Florida, is circulating to museums and historical societies around the state by the Museum of Florida History and is further slated for interstate travel next summer.

When Europeans made their way into the swamps of Florida, truly wondrous sights awaited them. In the mid-1700s Mark Gatesby, an early American naturalist,

wrote that alligators "Cannot be more terrible in their aspect than they are formidable." William Bartram's *Travels* (1791) reports that these "Terrible monsters....force the water out of their throats which falls from their mouths like a cataract and a steam or vapour from their nostrils like smoke."

It was the Spanish explorers, however, who were the first Europeans to observe this species, which ranges throughout the southeastern United States. It is distinguished from a second, small species found in China. The common and scientific name *Alligator* comes from the Spanish *el lagarto* meaning "the lizard."

Florida became a popular winter traveler's destination in the late 1800s. Many visitors had their first glimpse of live alligators while on boat cruises on the St. John's River, thus initiating the animal's role as a unique tourist attraction. No sooner had those first tourists arrived in Florida, than souvenir shops opened to cater to their whims. Postcards with alligator motifs were in

demand, and many turn-of-the-century visitors posed with stuffed alligators on custom-made postcards to send to their friends and relatives back home.

Henry Coppinger Jr., of Coppinger's Tropical Gardens in Miami, is credited with initiating the practice of alligator wrestling for exhibition in the 1930s. He taught young Seminole Indians his techniques, and hired them to wrestle alligators for tips from tourists at his Musa Isle attraction. Interestingly enough, at that time, over half of the Seminoles in Florida were employed by attractions during the tourist season.

But it is not the historical aspects of this exhibit alone that tell the complete story of the alligator. The animal's unique and unusual natural history and life story are also fascinating to explore. It becomes apparent that the truths surrounding this animal are every bit as curious as the mythology created by the early pioneers.

Although alligators are found >



PHOTOGRAPH BY KATHLEEN BROWN

throughout the state, they are most common in central and south Florida. Called by some biologists the "ugly wildlife manager," they are an important component of the swamp ecosystem. Alligators dig and maintain ponds or alligator holes, which hold water during dry weather. The fish or aquatic invertebrates which find refuge in these holes serve as food sources for wading birds.

During mating season, the rites of spring are heralded by the bellowing of amorous adult alligators advertising their availability to prospective mates. In June, females begin nest construction. Mound-shaped nests are comprised of vegetation which will decompose, generating internal heat to incubate the developing eggs (25 to 60 per nest). The internal temperature of the nest will determine the sex of the hatchlings. Would-be nest robbers are strongly discouraged by the single-minded protection of mama gator. Occasionally, an enterprising turtle will take advantage of the female alligator's vigilance and lay her eggs in another cavity of the nest, ensuring that their development is undisturbed.

Contrary to popular belief, alligators are very good mothers.

They will often assist the hatchlings out of their shells and will defend the tiny young for some months after hatching. Youngsters face a hazardous future when the mother no longer attends to them. Often only a few individuals from a nest live to see their third year.

The Florida alligator's long-term survival was threatened just twenty-seven years ago. Although hunting was legally banned in 1961, poachers continued to take 50,000 alligators per year until 1967 when the species became officially endangered. A massive awareness campaign was initiated by the National Audubon Society, and states stepped up their protection of the animal. As a result, poaching declined and the population began increasing. Reclassified as "threatened" in 1977, the alligator is now numerous enough to permit limited hunting.

"Alligators: Dragons in Paradise" provides a multifaceted look at the facts and fallacies that have surrounded the alligator since its discovery by Europeans. Artifacts include alligator bags, shoes and purses, alligator souvenirs and memorabilia. In addition, reproduction-cast skulls, a simulated nest with eggs, a tanned alligator

hide and a four-foot stuffed alligator, allow for hands-on learning. Beautifully designed graphics panels and photo-murals complete this attractive exhibit. A visit will provide you with a face-to-face encounter with one of Florida's most enduring and legendary inhabitants.

"Alligators: Dragons in Paradise"
Exhibit Schedule:

September 5-January 15, 1989
Orange County Historical Society,
Orlando, Florida

January 23, 1989 - March 31, 1989
Tishman-Speyer Properties, Miami,
Florida

April 8, 1989 - June, 1989
Brevard Museum, Cocoa, Florida

TREX is the traveling exhibition service of the Museum of Florida History. Initiated in 1979 to fulfill a statewide service mandate, the TREX program has been seen and enjoyed by millions. Secretary of State Jim Smith invites you to enjoy "Alligators: Dragons in Paradise" at one of its Florida venues.

Kathleen Brown is curator of education at the Museum of Florida History in Tallahassee.

PHOTOGRAPH BY KATHLEEN BROWN





PHOTOGRAPH BY LEE KUHN

Gator Hunters Renew a Florida Tradition

By Lt. Jim Huffstodt, Everglades Region

It seemed like the whole world was watching as Florida unveiled the first statewide wild alligator hunt in 26 years on September 1. The 238 permitted hunters were instant media celebrities, hounded and harried by television, radio, and print reporters from Tokyo, Japan, to Turin, Italy.

As the sky faded over the fabled Everglades, a handful of gator hunters preparing to launch kicker-boats at Holiday Park Concession Area were surrounded by representatives of the largest and most influential news organizations in the nation.

The majority of the press manned access points far into the night, patiently awaiting the arrival of the

first successful hunter. As the hours wore by, the throaty echo of distant outboard engines, or the glimmer of darting lights, lured them back toward the boat landing in eager anticipation.

More than 75 reporters endured the vigil at Holiday Park, at the Sawgrass Fish Camp, or at a rest area midway down Alligator Alley, State Road 84. They were all there — the *Washington Post*, the *New York Times*, the *Boston Globe*, the French news agency, *London Morning News*, a half-dozen Florida television stations, a Tokyo television reporter, and a pack of freelancers working for varied clients.

In the Everglades, the Law Enforcement Division also was out

in force. Some officers were assigned duty at access areas; others patrolled on levees in their vehicles; several prowled the dark canals in airboats; and, overhead, a Commission aircraft conducted aerial surveillance.

Just a few minutes after 11 p.m. at the Sawgrass Fish Camp, a cluster of reporters formed around two young men from Pembroke Pines who were the first hunters in more than a quarter-century to walk out of the Everglades with a legally captured wild alligator.

Doug Mackey, 24, the permit holder, and Steve Prater, 27, his licensed agent/assistant, brought ashore an eight-footer, weighing around 150 pounds. They had ▷

captured it alive after snagging the animal with a surfcasting rod, 80-pound test line, and sharp treble hooks. The two utility workers were exhausted and elated after a 40-minute fight.

Only a few minutes later, the encamped media at Holiday Park were also rewarded. Anthony Derosa, a 29-year-old permit holder from Hollywood and his agent Anthony Lewark, 32, of Davie, dragged ashore a genuine heavyweight contender.

They had taken alive a nine-foot, 11-inch bull gator that probably tipped the scales at 250 pounds. Derosa said they used a spear, grappling hook and snare in the two-hour fight. "I had no idea of the power of one of these things," he muttered. His agent nodded in agreement, calling it, "No cake job, that's for sure."

By midnight, the mass of media had moved off into the darkness, much like a predator after consuming its prey. Only one television camera was present on Alligator Alley when a petite woman wearing a rather fashionable hat nosed her boat up onto the concrete launch ramp.

Lynn Chesser is a well-spoken lady of middle years whose manners, poise and bearing might

surprise people who foolishly stereotype hunters in less complimentary tones. The Naples woman was ecstatic. As the agent for her son, 27-year-old Dan Hoolihan, she had waged a successful war against four burly gators whose impressive bulk lay still on the boat's floor boards.

The shattered shaft and bent point of a harpoon mutely testified to the struggle waged by the biggest of the lot. "He smashed up against the boat, and I lost my knife and my tape measure," Chesser laughed. An interested spectator quickly produced a measuring tape and handed it to her.

Chesser was delighted to find that they had taken one 10-footer, another only one inch shorter, and two that measured exactly eight-feet, three-inches each. Family members loaded up the catch on a truck bound for a meat processor, but Chesser and the others headed back to the boat even though it was 2 a.m.

"We aren't going home early," she said. "We want to get our limit of 15 tonight!" Admiring onlookers knew for certain that this tiny 110-pounder wasn't intimidated by any alligator, even one that did use a harpoon for a toothpick.

Gators aren't exactly strangers to Chesser. Her family is "old

Florida," and regards gator hunting as a tradition and a heritage. Her grandfather hunted the animals, and the granddaughter shows quiet pride in taking part in the historic 1988 hunt. Articulate and informed, she understands the wildlife management concepts that form the framework for the 1988 gator harvest.

Before the first night was over in the Everglades, approximately 36 alligators were taken. Statewide, the final estimated tally was 131. Even more impressive, no injuries to hunters were reported, and not one citation was written by wildlife officers monitoring the hunt.

The 1988 gator hunt was off to a fantastic start. And, increasingly, the press was communicating the fact that this harvest was a celebration of the long battle that brought a species back from the precipice of extirpation in Florida to the point where a limited, controlled harvest makes good conservation sense.

Dennis David, coordinator of the Alligator Management Program, was pleased with the first night's results. The media attention gave him and other Commission experts the opportunity to explain that the 1988 gator harvest was a crucial first step toward establishing a viable commercial enterprise centered on ▽



PHOTOGRAPHS BY CAROLEE BOYLES SRENKEL

the sale of gator hides and meat.

The concept is "value added conservation." David explains that the only arguments currently available to save wetlands habitat are altruistic and environmental. But, by developing a commercial network of businesses dependent on alligators, a new economic argument would be added to the conservationist's arsenal of ideas.

Scientific data, gathered over the years by Commission biologists, support the decision to sponsor the first public wild alligator hunt since 1962. Tom Stice, alligator biologist in the Everglades Region, points out that the hunt is a logical out-growth of the Commission viewpoint that certain wildlife species are renewable wildlife resources.

"Our philosophy is not a rigid, protectionist approach," he said. "We see the Commission as being dedicated to a wise use of natural resources providing, when justifiable, economic and sporting opportunities for the public."

Stice explained that the alligator population will benefit from the public hunt because more people will place value on the survivability of a species which provides economic benefits. This year gator hides are bringing more than \$42 per foot, and the meat often retails at \$6 a pound, he said.

"Now that we are allowing a small portion of the public to capitalize on that potential, they won't be so likely to ignore gator poaching by non-licensed trappers, or those who hunt the animal in the off-season," Stice said. "They will now see that these outlaw hunters steal from the law-abiding public, and be more apt to report violations."

Anti-hunting sentiment obscures the fact that big conservation comebacks on the North American continent — elk, Canada goose, antelope — are all hunted species. The sportsman is not the enemy of wildlife; the culprits are illegal market hunters and habitat degradation and destruction.

The scope and nature of the 1988 hunt evolved from long years of biological study. Stice described the current hunt, with its ceiling harvest

of no more than 3,450 gators as an extremely conservative measure.

Alligator population trends and densities have been the focus of Commission surveys conducted at various times throughout the state since 1974. At the present time, wildlife biologists from each of the five Commission Regions conduct numerous nightlight surveys, daylight basking surveys and nest counts each year.

Surveys are conducted in the same manner to ensure scientific accuracy. The sites reflect the diversity of habitat which supports gators in Florida — lakes, rivers, marshes, canals and ponds. Survey results are computed using a complex formula employing variable environmental factors such as water level and temperatures, wave height and vegetation type and density.

Basking surveys are undertaken during daylight when the cold-blooded reptiles haul themselves up on banks to enjoy the hot Florida sun, Stice said. At night, Commission biologists cruise predetermined survey routes using spotlights to count the alligators. The latter method is ideal since gator eyes reflect orange in the glare of the light. "Whatever type survey, the biologist attempts to estimate size and length as well," Stice said.

"It is nearly impossible to determine an exact population estimate in wildlife surveys. We know that gators occupy approximately 6.7 million acres of Florida wetlands. Based on the quality and quantity of this habitat, it is generally accepted that there could be as many as a million gators in this state," explained Dennis David, who began monitoring the statewide population trend studies in 1978.

Another source of valuable information relating to why and how the 1988 hunt came about was secured through experimental hunts beginning in 1981. Stice said the hunts helped document sensible harvest rates, and provided insight into how inexperienced individuals might fare while hunting and trapping alligators.

Participation in the experimental hunts was limited to individuals residing within 20 miles of respective sites, Stice noted. "These permitted hunters represented a cross-section of people, and demonstrated that the prepared, trained sportsman can hunt and trap gators without undue risk," he said. With over 3,000 nights of trapping effort, not one trapper in the experimental hunts sustained a major injury.

One decision that evolved from the experimental hunt was to limit the harvest to 15 percent of the alligator population on any management unit, Stice added. "Nature provides a natural surplus of alligators which makes that a very safe harvest rate," he said.

Biologists closely supervised each experimental hunt. Stice and Commission Wildlife Biologist Tim Regan were assigned to Lake Trafford near Immokalee in Collier County.

"We collected as much data as possible," Stice said. "We weighed and measured each alligator, released a certain percentage of tagged animals for follow-up, and conducted our surveys to see how the harvest impacted the local population. The results indicated that we could support a limited hunt without detrimental effects on the species."

Alligators are a keystone species, playing an important role in the complex Everglades ecosystem, Stice explained. He described the alligator as nature's water manager. "During low water periods, the gator holes are the center of fish and animal life. Wading birds and fish are clearly dependent on them, and would suffer if the alligator disappeared."

At the same time, the controlled wild alligator hunt is not a threat to that balance, he emphasized. Each hunt will take place in an area where population surveys indicate an abundance of alligators.

Stice believes the 1988 alligator hunt is a justified action based on time-tested wildlife management theories. "In the long run, the hunt will benefit the species, and the sporting public," he said.

A Lesson in Turkey Hunting

By Carolee Boyles-Sprenkel

Last year's doe days were wet and miserable in north Florida. I'd been looking forward to those two days for weeks, more so as they approached because I'd been ill and had missed opening day for the first time since I started hunting. But rain fell all day Saturday, and I still didn't feel good enough to hunt wet.

The weatherman promised clearing on Sunday, but when my husband and I got up about 7:30, the sky was still leaden. My husband walked down our road between showers to get the newspaper, but didn't get back in the house before a sudden squall drenched him.

As he dried out around a cup of coffee and a hot breakfast, the rain slowed to a drizzle and stopped. I glanced out into the back yard, where a group of big, dark birds had appeared. Without my glasses, my first thought was, "What is a bunch of vultures doing standing out there?"

Then I took another, harder look. They weren't vultures at all, but turkeys—real, honest-to-goodness turkeys, standing less than 300 feet from the back door. I'd never shot a turkey, and the idea of having one of these for Christmas dinner was delectable. While I loaded my deer rifle, my husband counted 10 of the birds strolling casually along.

As soon as I started to ease the back door open, though, they knew

something was up. Clucking nervously, they started edging back toward the woods. I got the rifle up, aimed through the scope at one, and fired. The birds scattered to the four winds.

Even though I was barefooted and didn't have my glasses on, I went out into the back yard. I was almost sure I'd missed, but didn't want to take a chance on leaving a bird down where I couldn't see it.

I was right—no turkey. As I studied their tracks, though, I heard clucks and yelps from two directions as the birds started to gather back up. It suddenly occurred to me that if I walked to our property line I might at least see the birds cross a neighbor's road that parallels our land.

I hadn't walked three steps before I discovered my first mistake. There, clear in the wet sand, were deer tracks. They were fresh since the rain that had ended only 15 minutes before, and showed clearly that the deer had walked calmly into full view of where I'd been standing when I shot, and then had bolted. I'd been so intent on the birds that I'd never even looked around for a deer.

Muttering under my breath, I followed the turkey sounds. They'd already crossed the road, and were now headed down through our woods. If I hurried, I thought, I might make it to where the road turns a corner and still catch them



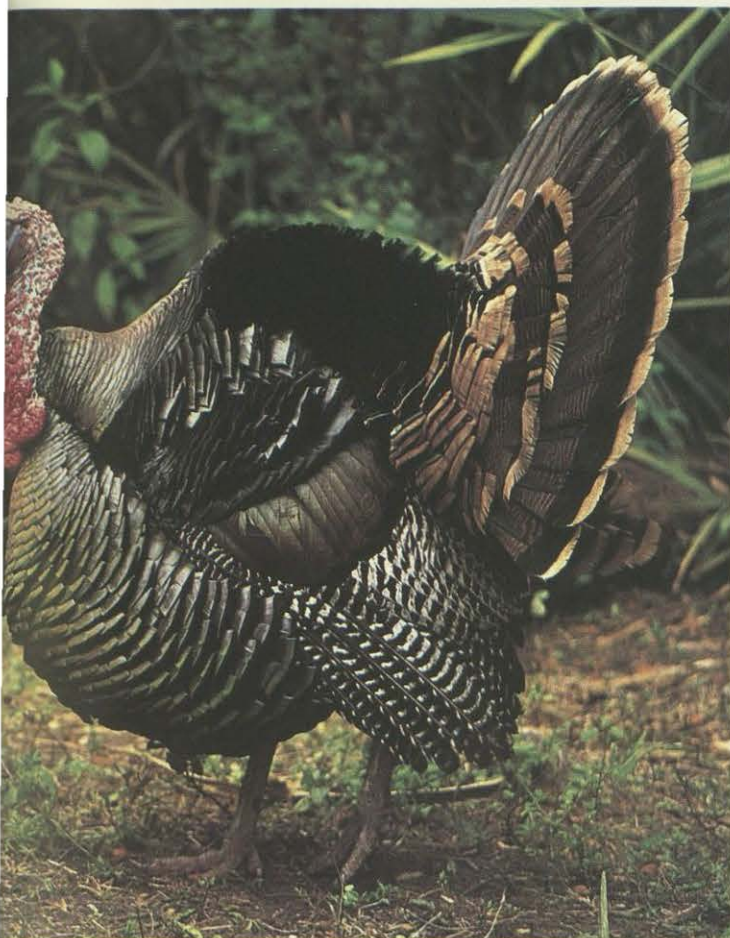
PHOTOGRAPH BY CHARLIE HEIDECCKER

before they crossed back onto the neighbor's property.

That was my second mistake. The neighbor had been out the week before and mowed the grass on the road. I figured I'd have easy walking. What I couldn't see were all the little pieces of blackberry plants that were chopped in the drying grass. I had to stop every ten or twelve steps to pick stems from the bottoms of my feet. By the time I got to the corner, my feet felt like they'd been tattooed.

Of course, the turkeys were long gone. I could still hear them very faintly, moving away from me through the neighbor's woods.

Grumbling, I started to go back the way I had come. Then I remembered that I'd heard turkeys gathering up in two places. The second group probably had crossed the road already, but if I went on down to our fire line, I might have one last chance at a bird. If nothing else, I figured, I was getting a good lesson in the ways of turkeys.



PHOTOGRAPH BY WILLIAM S. LEA

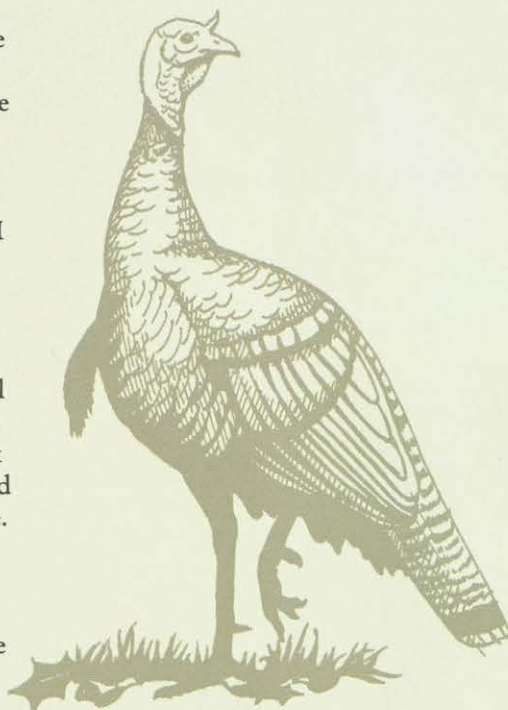
Once I got forty feet or so up the fire line, I realized I'd erred again. After so much rain, I'd expected the line to be muddy. But my bare feet sank in almost to my ankles, and the water reached my knees. I slogged up the line, trying to keep my balance and still be quiet.

Then, up ahead and to my right, I heard a single bird clucking and calling. I tiptoed into a drier spot and stood still, peering about myopically.

Nothing else happened for several minutes. Finally, I decided to sneak on up the line just a little. As I took my second step, the turkey exploded off the fire line not 20 feet from me. It had been watching me all the time. If I'd stopped to get my glasses, I'd have been able to see it.

Disgusted, I headed on up the fire line toward the house and dry clothes. I hadn't gone three steps when a deer crashed away, just yards from me. I froze, thinking it might stop. No way.

I started walking again.



Carolee Boyles-Sprenkel is a freelance writer based out of Quincy.

Immediately, two more deer bounded off through the brush.

By now I was really aggravated. I stepped around a big tree and jumped almost out of my skin when that same turkey flushed again, not 30 feet away. The bird had moved just off the fire line when it flew. If I'd gone back to the house and gotten the shotgun instead of carrying the rifle, I'd have bagged it easily.

When I got back to the house, the sky had lightened some. "This is ridiculous," I told my husband. "I know I'm not going to get anything, but after seeing all those turkeys and deer, I've got to sit in a deer stand for a while."

Less than thirty minutes after I sat down, I heard a series of clicks, clucks, and whistles close to my stand. Another flock of turkeys strolled by within twenty feet of where I was sitting, and I carried home a young gobbler for Christmas dinner.

THE 1987-88 FLORIDA WILDLIFE MAGAZINE READER SURVEY

What Our Readers Told Us

By Mark Damian Duda and Paige Moody

Last year *FLORIDA WILDLIFE* polled readers to determine their likes and dislikes.

Over a thousand *FLORIDA WILDLIFE* magazine readers responded to our 1987-88 satisfaction survey. What did they tell us? Lots! They told us what they thought of the magazine, what kinds of articles they enjoy most and least, and gave us some suggestions for improving *FLORIDA WILDLIFE*.

WHAT DO FLORIDA WILDLIFE READERS THINK OF FLORIDA WILDLIFE MAGAZINE?

They think it's terrific! From the data collected in the survey, to the comments and letters readers included in their survey forms, we found that *FLORIDA WILDLIFE* readers love the magazine. Sixty-two percent of the survey respondents feel the magazine is "excellent" and 29 percent feel the magazine is "very good." Less than one percent rated the magazine as "poor."

Many readers included notes with their survey forms. One reader wrote: "The subject matter and editorial comment are excellent. Since Mr. Waters became editor, *FLORIDA WILDLIFE* is much improved." Another reader wrote: "I enjoy your magazine cover to cover. There are plenty of fishing, hunting and sports magazines, but your *FLORIDA WILDLIFE* is so much more than that. Animals are so much a part of our world and your magazine catches, or informs us, of what is going on."

Another indication of what *FLORIDA WILDLIFE* readers think of the magazine is how long they subscribe. Overall, respondents have been receiving *FLORIDA WILDLIFE* for an average of almost nine years. Not many magazines can boast such "holding power." It seems that once someone subscribes, they're hooked.

As a government agency, we often wonder how *FLORIDA WILDLIFE* magazine stacks up as a publication. Do our readers think it's just another government publication? Do readers think it's just a hunting and fishing publication? Hardly. Only one percent of the respondents considered it a "government publication" and only 12 percent considered it a hunting and fishing magazine, evidence that the magazine has broad appeal not only to hunters and fishermen, but to all types of wildlife enthusiasts. By far the majority of respondents considered *FLORIDA WILDLIFE* a "wildlife magazine" (58 percent). Twenty-five percent considered it a "conservation magazine" (Figure 1).

If this survey is equivalent to a report card, *FLORIDA WILDLIFE* would make the Dean's list.

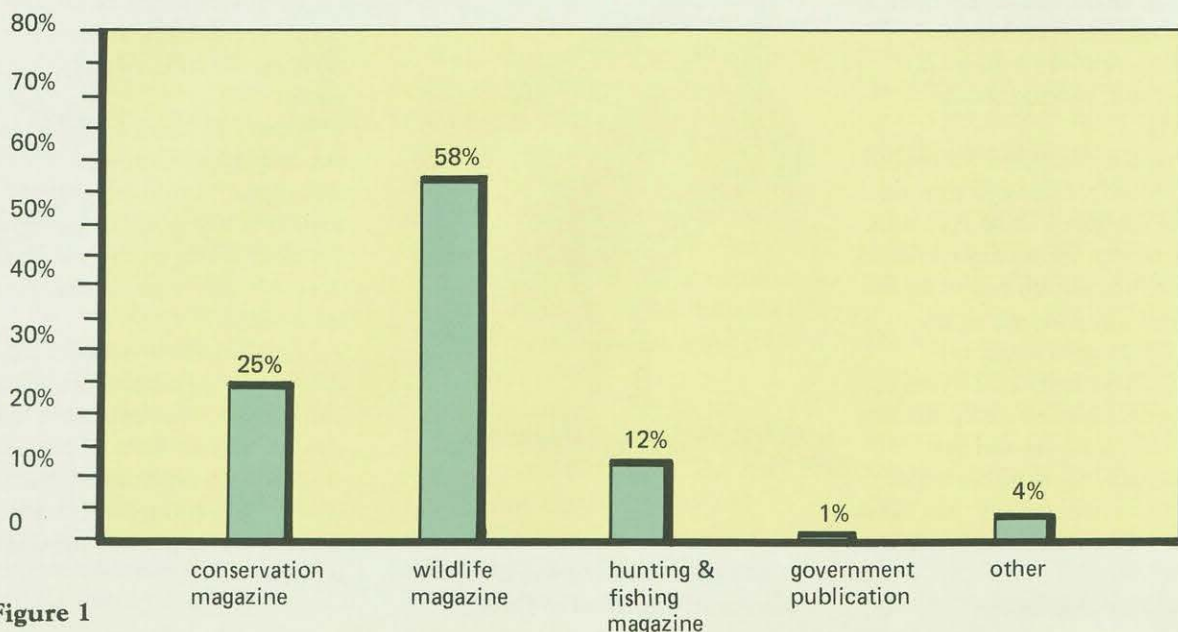


Figure 1

WHO READS FLORIDA WILDLIFE?

Thousands of Floridians read *FLORIDA WILDLIFE* magazine. But they're not the only ones. Virginians and Georgians, Californians and Texans also read *FLORIDA WILDLIFE*. In fact, about 10 percent of our readers are from out of state. This points out something that wildlife conservationists in Florida have been saying for a long time—Florida's wildlife is not only important to Floridians, but to people across the nation as well.

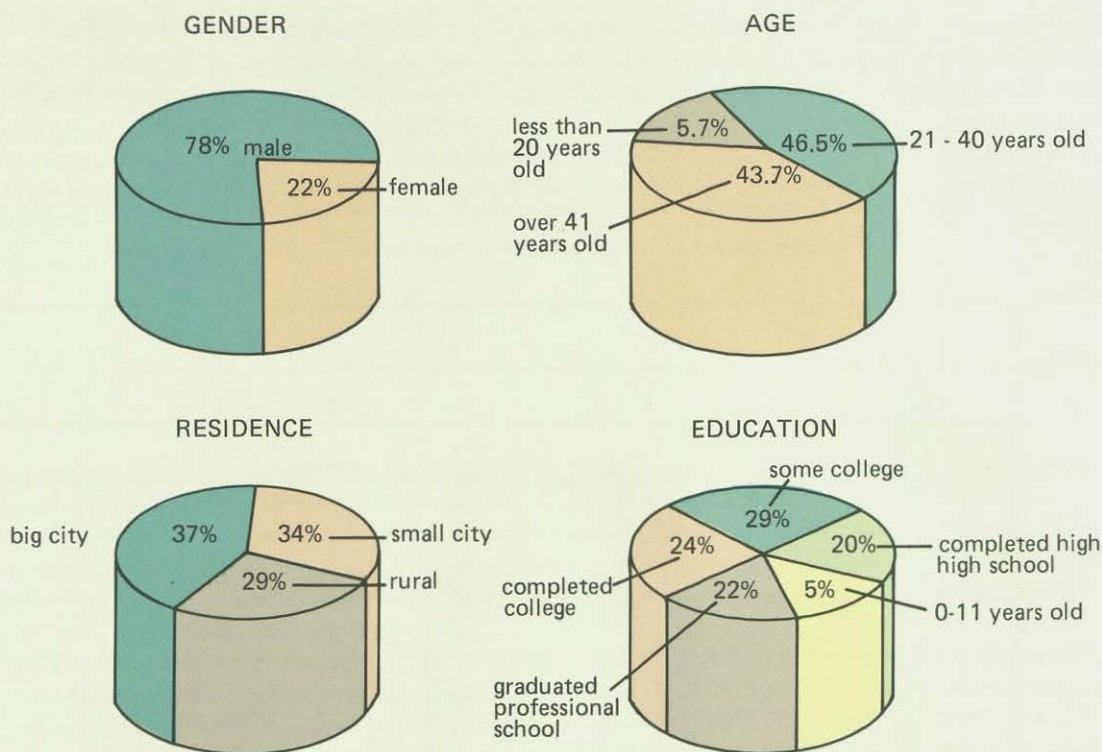
Although people from all walks of life—young and old, male and female, rich and poor—read *FLORIDA WILDLIFE*, we found that a reader was more likely to be male, older (around 50 years old) and have been to college. In fact, almost 50 percent of our readers have college degrees. Considering that 12 percent of Floridians have degrees, these *FLORIDA WILDLIFE* magazine readers are a highly educated lot, indeed. And a reader is actually more likely to be a big-city dweller than a person from a small city or rural area, exploding the myth that the magazine appeals only to ruralites (Figure 2).

Another myth the survey shattered was that the magazine appeals only to hunters. Not so! We found that only half of our readers are hunters, again indicating the magazine has broad appeal to a full range of people interested in wildlife.

Our cross tabulations* indicated that *FLORIDA WILDLIFE* magazine is appealing to two different types of wildlife enthusiasts—people who enjoy hunting and trapping, the so called “consumptive” users of wildlife, and people who enjoy “nonconsumptive” uses of wildlife—wildlife viewing, wildlife study and appreciation. Although each group is obviously more interested in its activity of choice, and wants to see more of its activity highlighted in the magazine (and less of the other types of activities), the magazine is doing an incredible job pleasing all groups, and, as importantly, not alienating either. We detected no differences in opinion about the quality of the magazine or satisfaction levels by wildlife-related activity groups, nor for that matter by any socioeconomic or demographic variable. The magazine is appealing to both hunter and wildlife watcher, young and old, male and female and ruralite and urbanite.

*When analyzing data, selected variables such as gender, age or participation in wildlife-related activities are run against other survey questions. This allows us to determine if there are any attitude or opinion differences by gender, age, etc. For example, cross tabulations allowed us to determine that women were more likely than men to want articles on wildlife photography and that hunters were more likely than nonhunters to fish and camp while nonhunters were more likely to hike.

Figure 2



WHAT KINDS OF WILDLIFE-RELATED ACTIVITIES DO FLORIDA WILDLIFE READERS ENJOY?

No “couch potatoes” here! Readers of *FLORIDA WILDLIFE* and their families fish (83%), enjoy wildlife at home (80%), boat or canoe (78%), observe wildlife (68%), photograph wildlife (60%), hunt (51%), camp (51%) and hike (49%) (Figure 3).

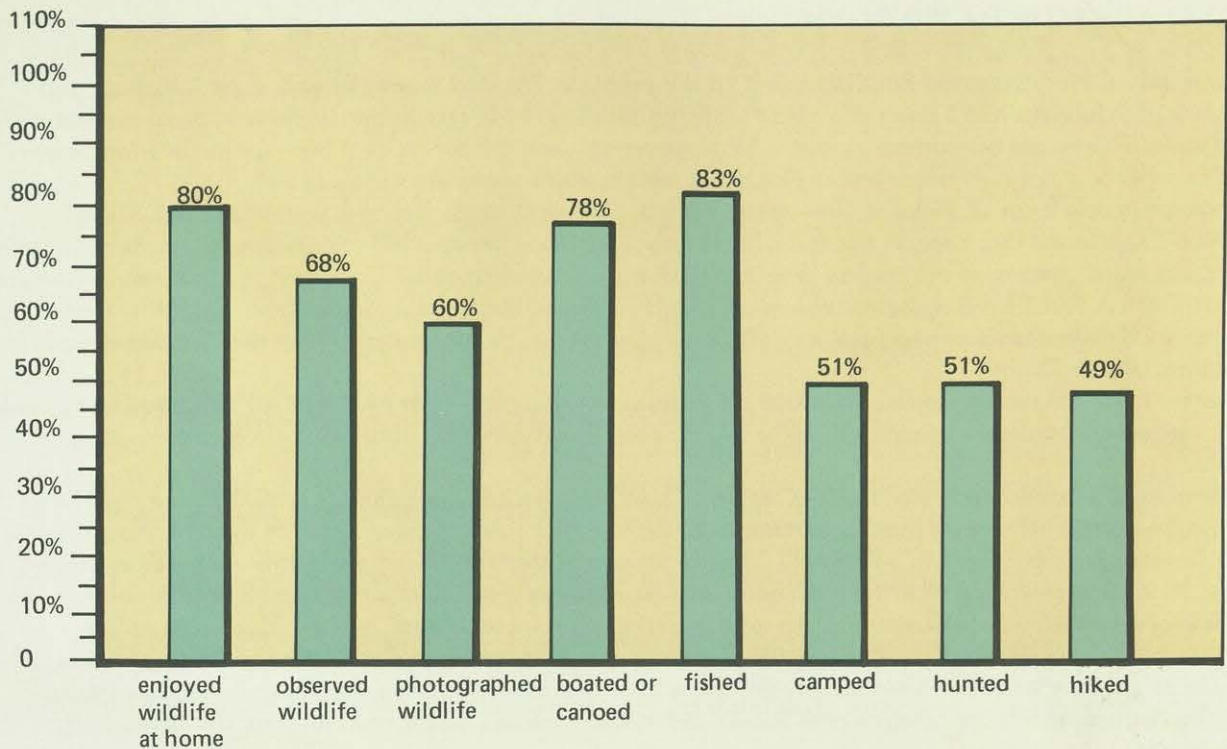
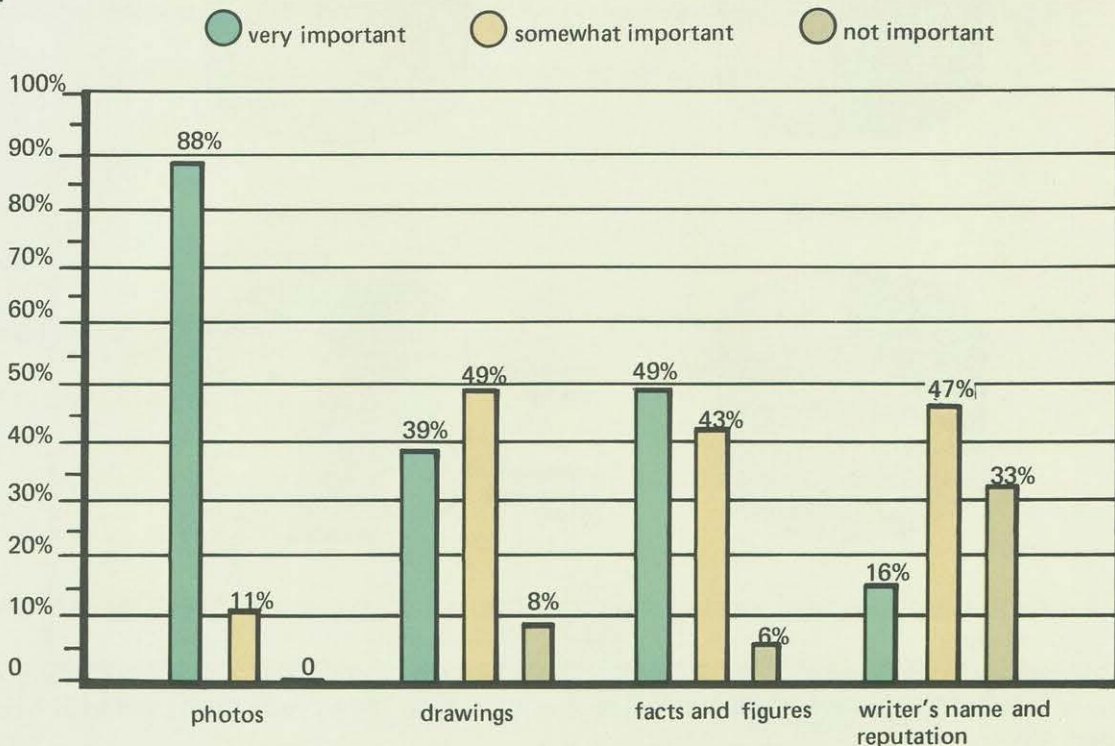


Figure 3

HOW IMPORTANT ARE PHOTOGRAPHS, DRAWINGS, FACTS AND FIGURES, WRITER'S NAME AND REPUTATION, AND MAPS AND CHARTS TO READERS' ENJOYMENT OF A MAGAZINE ARTICLE?

Overall, photographs are the most important component adding to the enjoyment of an article. Eighty-eight percent of respondents felt that photographs were very important. Maps and charts were very important to 59 percent of the respondents. Facts and figures were very important to 49 percent of the respondents. Less important to readers' satisfaction with an article were drawings and the writer's name and reputation (Figure 4).

Figure 4

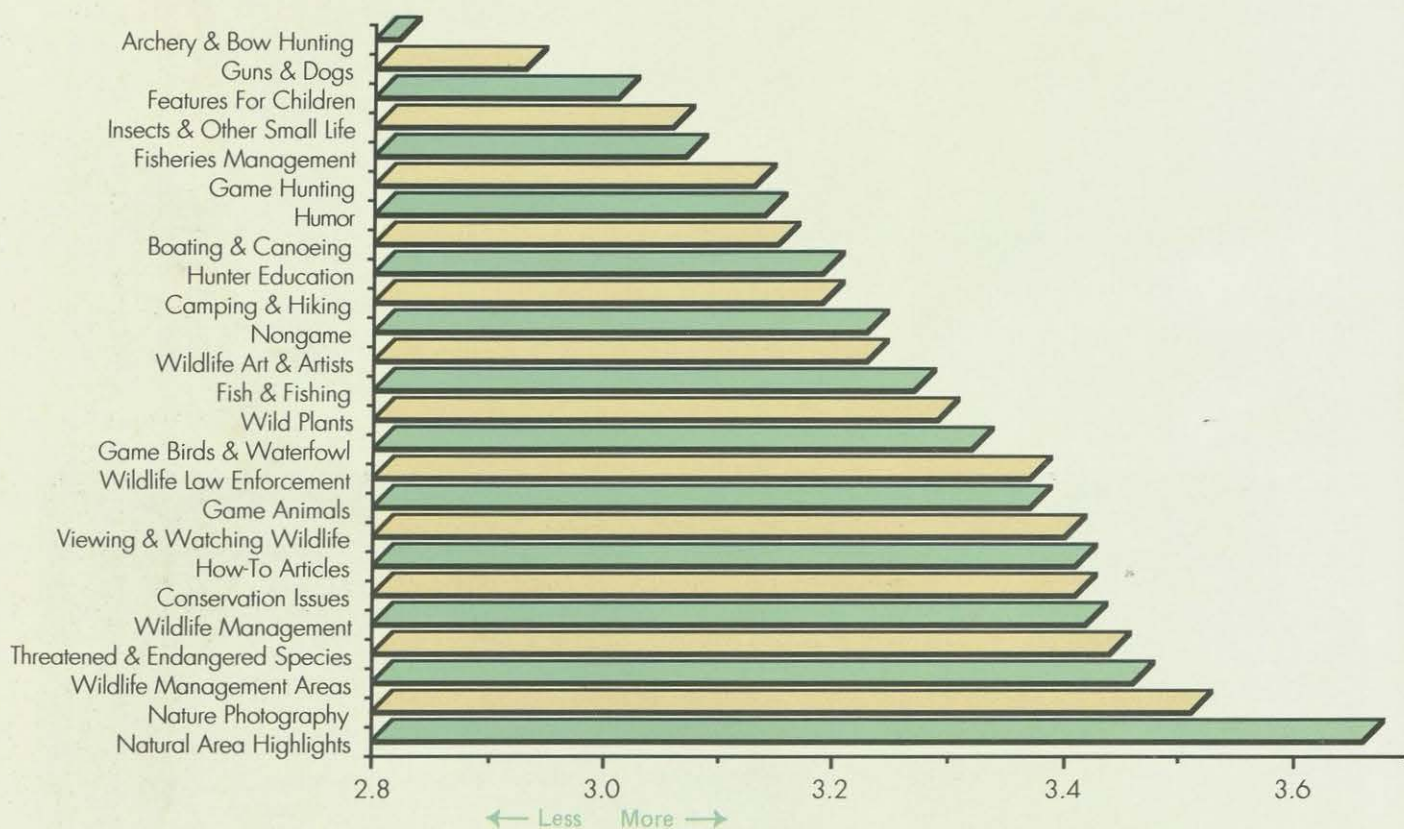


WHAT TYPES OF ARTICLES DO READERS WANT MORE OF? LESS OF?

FLORIDA WILDLIFE readers want more articles on almost everything! The only subjects the readers want less of are articles on archery and bowhunting, and guns and dogs.

The clearest mandate given to us by survey respondents was to have more articles highlighting Florida's natural areas. Sixty-five percent of the respondents said they want more articles on this subject. Other subjects with overwhelming support for more articles include features highlighting the Commission's wildlife management areas, wildlife viewing, wildlife photography, conservation issues, wildlife management, threatened and endangered species, and "how-to" articles (Figure 5).

Figure 5



HERE'S HOW YOU CAN HELP US:

Survey results indicate that people first become familiar with the magazine from a friend or a relative or by seeing a copy in an office or lobby. Share your old copies of *FLORIDA WILDLIFE* with friends and relatives and encourage them to subscribe. Ask your dentist and physician to subscribe and place them in their waiting rooms.

Take advantage of our promotional art print offer, featured on page 39 of this issue. *FLORIDA WILDLIFE* makes a wonderful gift, even to friends who live out of state. For \$21 you can give three gifts and receive a complimentary art print for yourself.

It is clear from this study that readers want more articles highlighting Florida's natural areas. If you work at a state park, historic site, wildlife management area, national forest, wildlife refuge or other natural area, encourage the superintendent to share the natural history of the area with *FLORIDA WILDLIFE* magazine readers. Or better yet, write an article yourself. If you have a favorite hiking trail, camping hideaway, fishing hole or natural area retreat, share it.

From the results obtained in this study, it appears that some subscribers are receiving duplicate issues of the magazine. If you are receiving duplicate issues, let us know by sending us the mailing labels from both magazines.

Authors' note: We would like to thank Jennifer Hathaway, Carl Weathington, Pam Osborne, Edna Hancock, and Missouri Department of Conservation for their assistance with this project.

1988 Photo Contest

Wild Animals Other Than Birds and Mammals

Our 1988 photography contest required a lot of energy from the judges. There were more than 400 entries for four categories, and so many of them were so very excellent that it was difficult to select the few we have room to publish. Here are some of the judges' comments about the entries:

"I was absolutely thrilled to see so many very fine photographs! Being a photographer myself, I can really appreciate the skill and persistence in the field some of this year's contest photographers had to have in order to come home with their images."

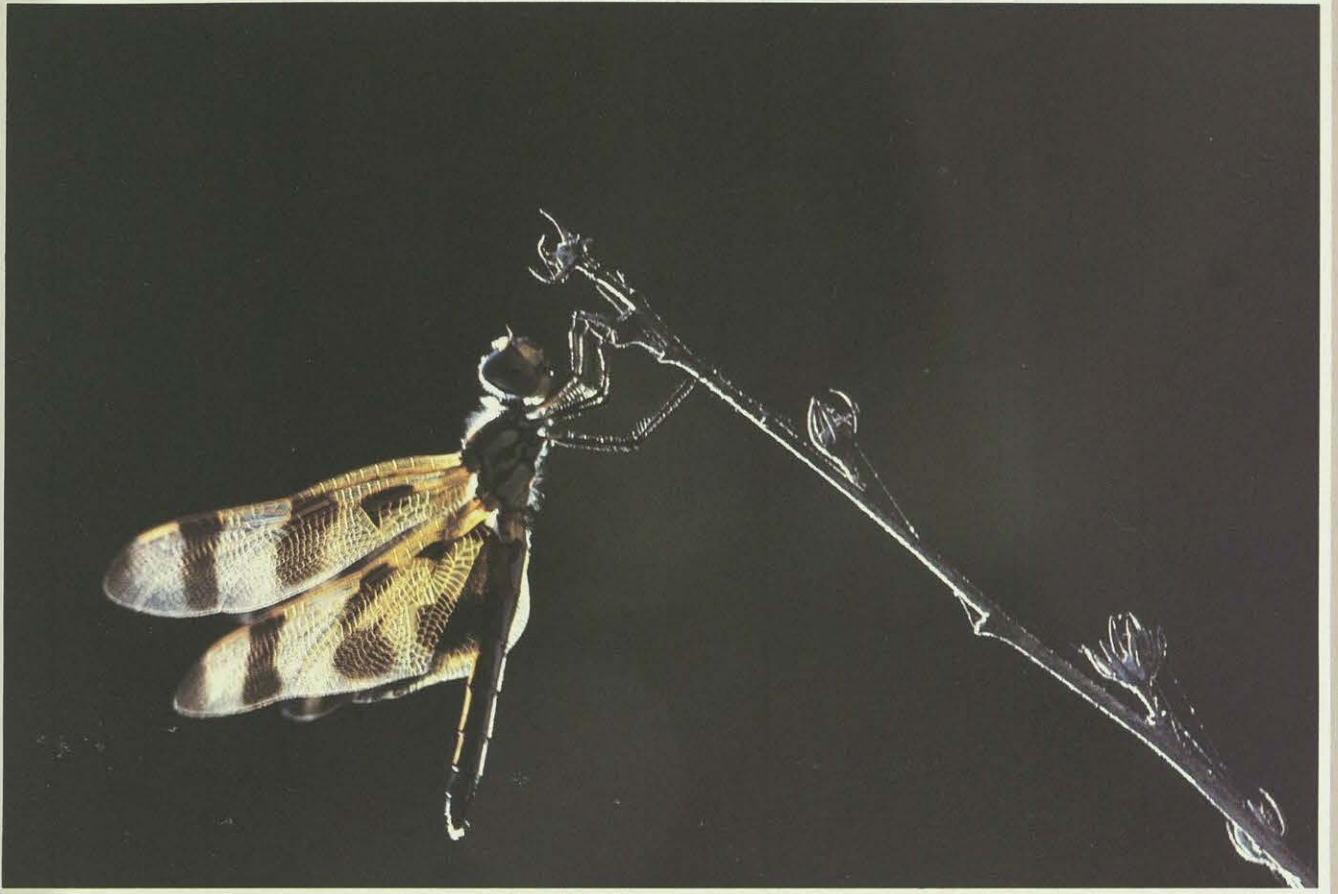
"So many were of similar high quality, I found judging difficult."

"Being one of the judges was a special privilege. Judging required careful consideration of many factors, especially technical merit and subject matter. However, the experience was lightened by being able to share those special moments with our contest entrants. I would be proud to have taken many of the photographs entered, and it really inspired me to go out into the field with a camera."

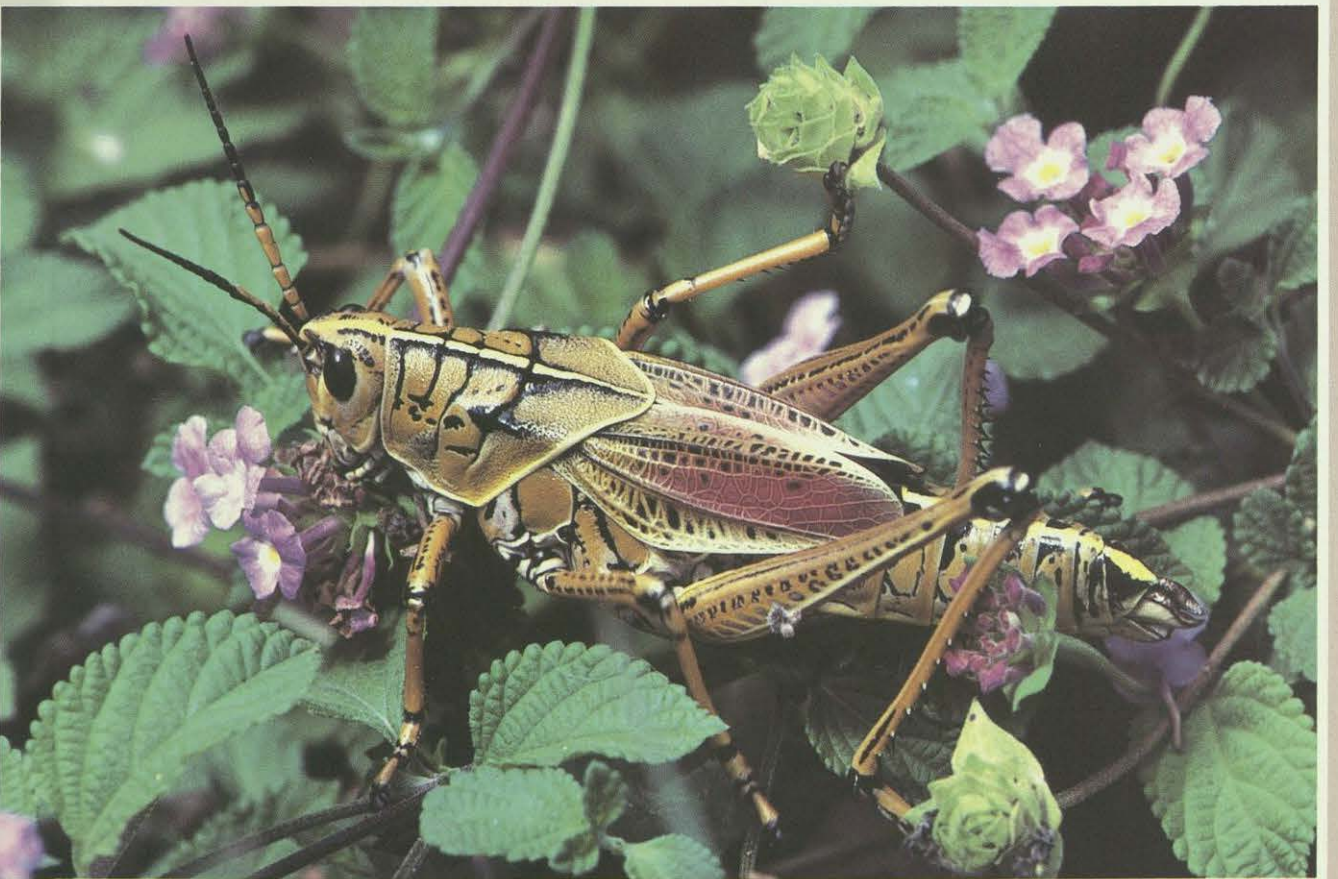
Categories A and B were featured in the September-October issue.



First Place: Treehoppers (Thornbugs) by Priscilla Connel, Sanibel, Florida



Second Place: *Dragonfly* by Jeff Ripple, Boca Raton, Florida



Third Place: *Southeastern Lubber Grasshopper* by Norvia Behling, Sarasota, Florida





Honorable Mention: Mimic Butterfly by Jane T. Adams, Arcadia, Florida



Honorable Mention: Alligator by Michael D. McCrary, LeHigh Acres, Florida



Honorable Mention: Grasshopper by James Phillips, Tampa, Florida.



Honorable Mention: Anole by John A. Kumiski, Winter Park, Florida



Honorable Mention: Polyphemus Moth by Jane T. Adams, Arcadia, Florida.

Florida's Natural Environment and Human Interaction with the Environment



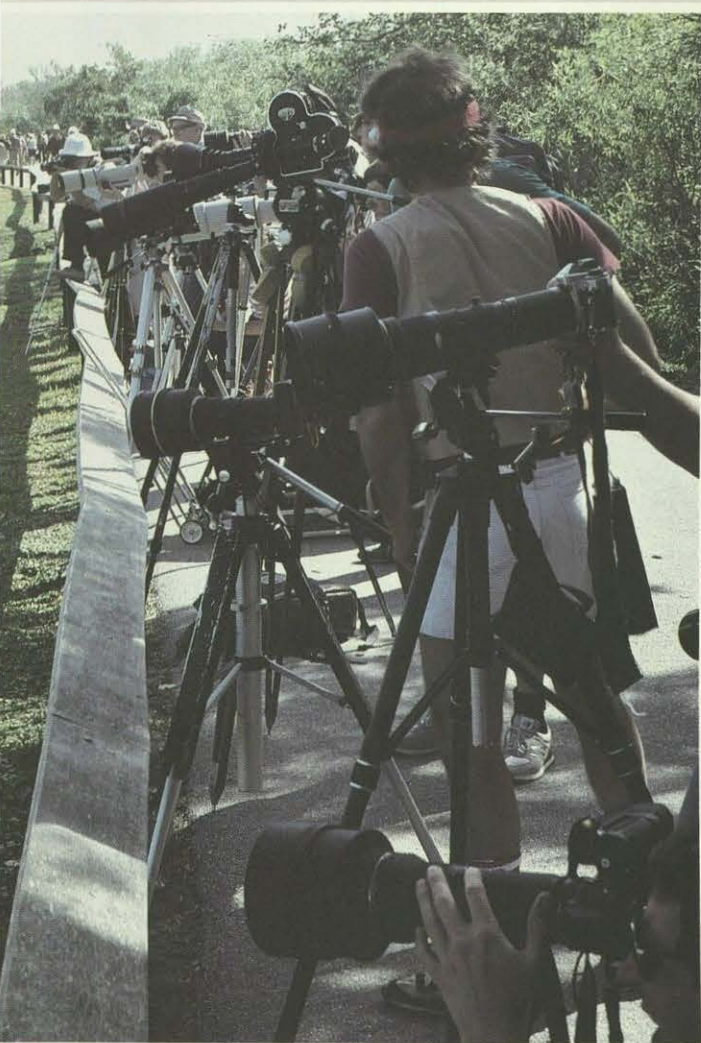
First Place: *Venice Fishing Pier* by Lynn Warfield, Sykesville, Maryland



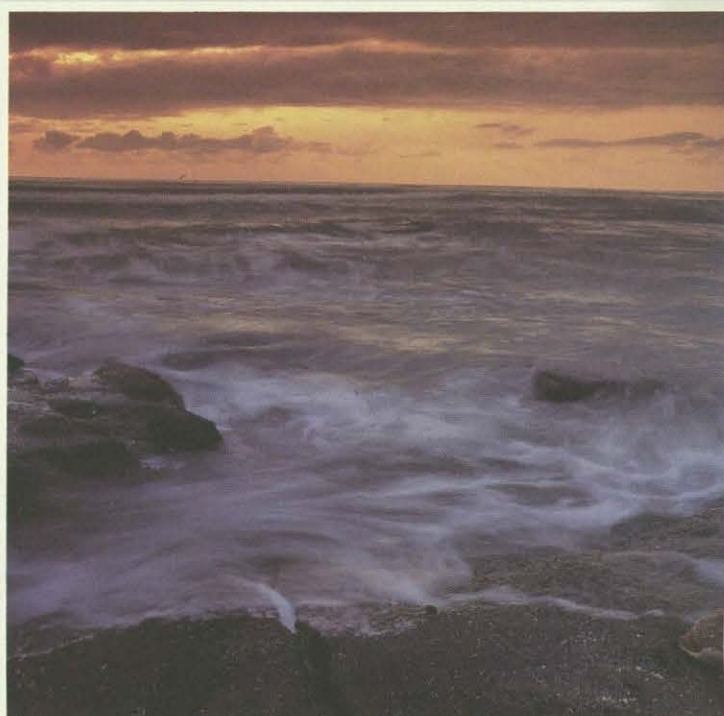
Second Place: *Fisherman at Sunset* by Debra K. Davies, St. Petersburg, Florida



Third Place: *Campfire on Cape Sable* by John A. Kumiski, Winter Park, Florida



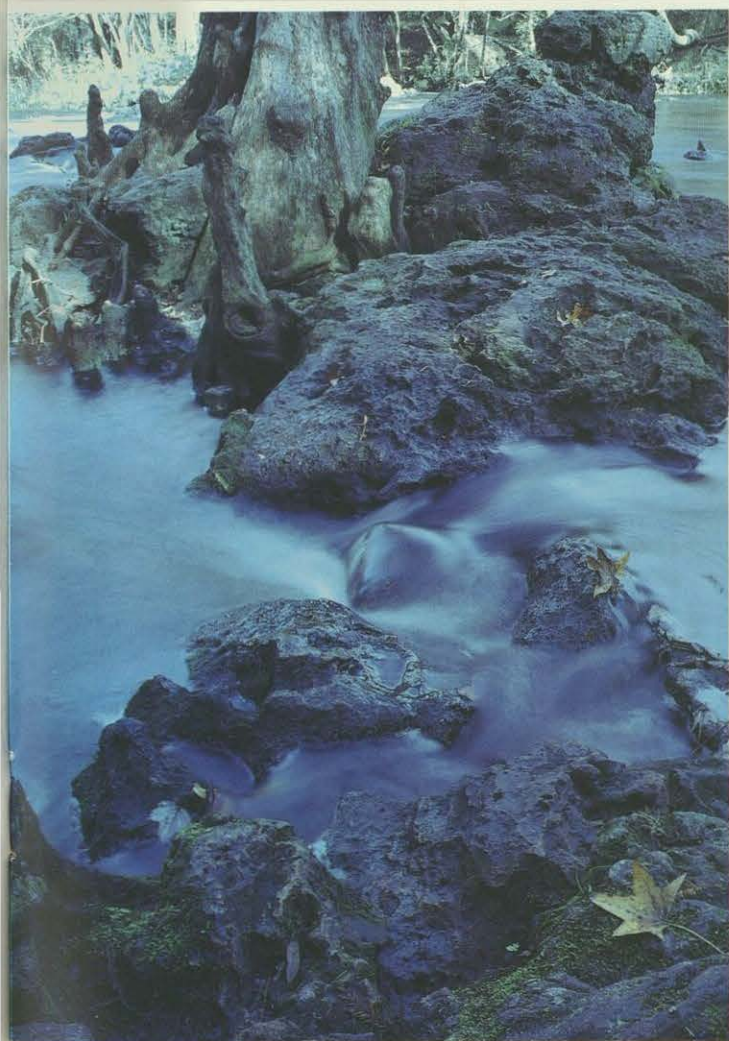
Honorable Mention: *Anhinga Trail* by Bill Sheldon, Antiga, Wisconsin



Honorable Mention: *Rocks at Sunset* by Jane T. Adams, Arcadia, Florida



Honorable Mention: *Sunset on Dog Island* by Nick Giorgio, Clearwater, Florida



Honorable Mention: *Hillsborough River State Park* by James Phillips, Tampa, Florida



Honorable Mention: *Sunset at Newnans Lake* by Scott Bullock, Gainesville, Florida

wildlife artist
Gregory Biolchini

Gregory Biolchini, our featured artist, has been painting professionally for eighteen years, and has lived in Florida since 1958.

Using cameras instead of sketch pads, he "travels all over" the state of Florida to find his wildlife and landscape subjects. "Sometimes I find animals in the most unlikely places like Ft. Myers Beach, amongst all the people," he explains. His subjects also include the human figure, portraiture and all forms of wildlife, with a particular focus on endangered species.

"I feel that artists have a duty to bring attention to the plight of our fellow animals. We should be like a mirror, reflecting the concerns of the time period in which we live."

Although his paintings have the transparent qualities of watercolors, pastel is his chosen medium. His realistic animal depictions are anatomically accurate, yet pleasingly loose in style. He successfully uses the illusion of light on form to create an impression of the third dimension.

Biolchini has a keen sense of light and shadow, and is extremely proficient in controlling tonal values, a difficult task with pastels.

"Pastels are the purest of the painting vehicles," he explains of his chosen art form. Pastels are sticks of dry color, often confused with chalks. Because pastels are primarily pure pigment, there is little color loss or deterioration, as is common with oils and other painting media.

Biolchini is a member of the Pastel Society of America, and has taken three national awards in their annual show. He is a member of the Florida Artists Group, and has won numerous local and regional awards. His pieces are in private and public collections throughout the country. Our featured artist is often in demand for workshops and demonstrations, most recently with the National Arts Club in New York City.

—Andrea H. Blount



Young Florida Panther



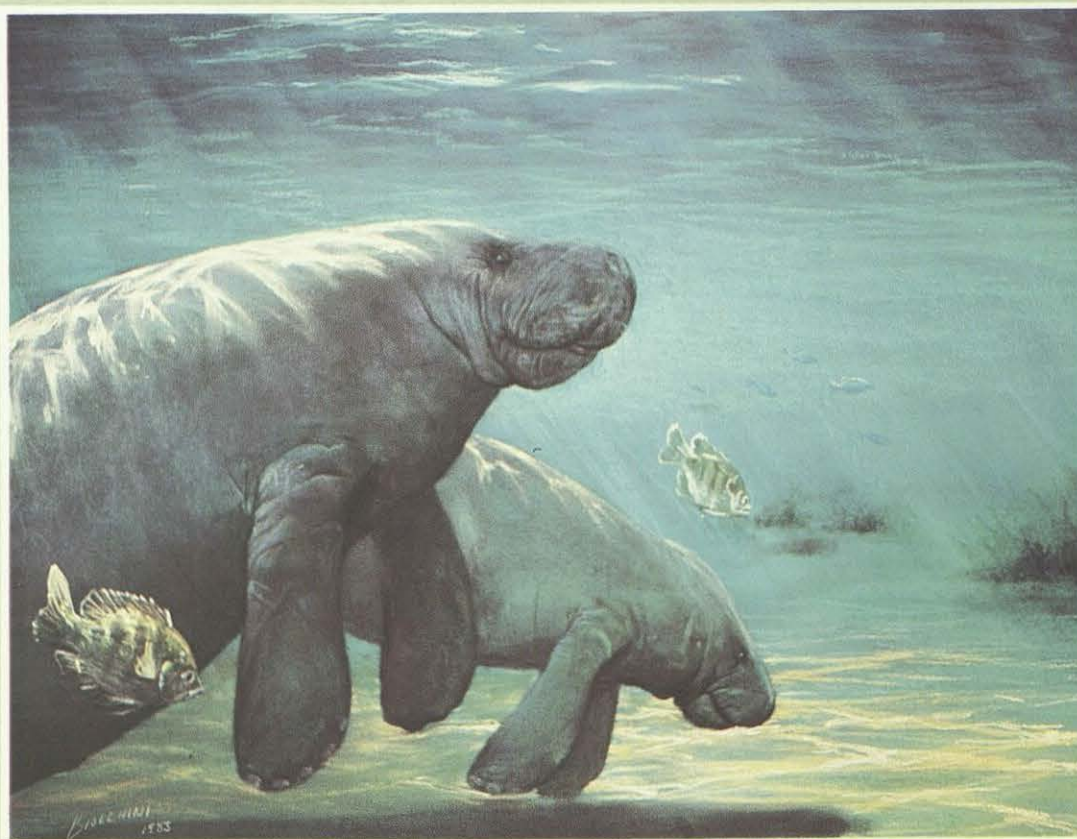
Sandpipers



Raccoon in Palmettos



Great Horned Owls



Manatees





James Valentine's *wildlife photography*

Fort Myers Beach was still relatively undeveloped when James Valentine was a young boy canoeing on the ocean and camping in the mangrove systems. Thirty-five years later, this Tallahassee-based naturalist/photographer has seen much change and development, yet keeps his attention and his cameras focused on the natural lands that remain in Florida and throughout the South.

With a photographic career that already spans three decades, Valentine has published four major books on southern states. His images have appeared in Audubon Society, Sierra Club and Nature Conservancy publications, as well as the High Museum of Art in Atlanta, the Carter Presidential Center in Atlanta and the Appalachian Environmental Art Center in Highlands,

North Carolina. He is currently on a photographic tour to document the wilderness area of the South.

Deep appreciation for nature permeates all of Valentine's work, a concern that has prompted him to coordinate his photography with leading environmental organizations throughout the world. "Photography is not only a visual art that can be used for conservation, it's also an important political tool that can depict environmental habitats that need preservation," he explains. "From a political standpoint, it's an absolute must to be able to show someone--in a very positive manner--an image that is a full display of the spiritual values of wilderness. In this day and time of rapid communication, conservation imagery is the way to go."

—Georjean Machulis ▷



Key Deer, Florida Keys



Manatees, Blue Springs, Florida





Bottlenose Dolphins, Dolphin Research Center, Grassy Key



Brown Noddy Terns



Florida Panther





Sheet Size: 17" Vertical x 25" Horizontal. Image Size: 11 1/2" Vertical x 17" Horizontal. Limited edition of 1,000.

Scott B. Crouse's Largemouth Bass

Buy 3 Subscriptions and We'll Give You a Print!

Beginning life as a tiny egg, the largemouth bass may grow to 15 pounds or more in Florida's warm subtropical freshwater ponds, lakes and streams. This sleek, efficient predator is a premium gamefish which is sought after by millions of anglers every year.

Spawning of this species in our state most often occurs in spring, with males beginning courtship and breeding by fanning out a cleared "nest" on the bottom, often in shallow water. Called a "bed," the nest is most often within or near aquatic vegetation such as lily pads and maidencane, or near other underwater structures such as logs and rocks. Once the bed is ready, the female lays thousands of eggs which are externally fertilized in the water by the male. After egg laying, the male guards the nest until the hatchlings are able to disperse and fend for themselves.

Hatchlings feed on tiny aquatic organisms, and as they grow larger, they take increasingly larger prey. The largemouth's diet includes almost everything that lives in or enters its habitat. Examples of its foods include insects, mollusks, amphibians, reptiles, mammals, birds and other fish. The largemouth is at the top of a complex food chain.

Anglers use everything from simple cane poles to the finest rods and reels to catch largemouths. Live natural baits and a very wide assortment of artificial lures are productive. The clean, white meat of this fine food fish is considered a delicacy by many.

A Full-Color Print For You!

FLORIDA WILDLIFE is pleased to offer you a signed, numbered print of Scott B. Crouse's "Largemouth Bass" when you purchase three subscriptions. It's our way of thanking you for sharing FLORIDA WILDLIFE with others. We know you will be more than pleased with this very outstanding work of art and that your friends will appreciate your subscription gift to them.

Note: A minimum of three subscriptions is required to receive the print.

Send Payment To: FLORIDA WILDLIFE
620 South Meridian Street
Tallahassee, FL 32399-1600

Please type or hand print legibly. Enclose minimum payment of \$21 (check or money order, payable to FLORIDA WILDLIFE). Please allow three to four weeks for delivery. Subscriptions will be started as soon as they can be entered into our computer system.

Use This Form (or a Photocopy). Please Include The Mailing Label From A Recent Issue, If Possible.

Subscriber

1

Subscriber Name: _____

☐ NEW ☐ RENEWAL

Address: _____

☐ 1 Year (6 issues) \$7.00

☐ 2 Years (12 issues) \$14.00

City: _____ State: _____ ZIP: _____

☐ 3 Years (18 issues) \$20.00

Subscriber

2

Subscriber Name: _____

☐ NEW ☐ RENEWAL

Address: _____

☐ 1 Year (6 issues) \$7.00

☐ 2 Years (12 issues) \$14.00

City: _____ State: _____ ZIP: _____

☐ 3 Years (18 issues) \$20.00

Subscriber

3

Subscriber Name: _____

☐ NEW ☐ RENEWAL

Address: _____

☐ 1 Year (6 issues) \$7.00

☐ 2 Years (12 issues) \$14.00

City: _____ State: _____ ZIP: _____

☐ 3 Years (18 issues) \$20.00

Send Bass Print to:

Buyer's Name: _____

Address: _____

City: _____ State: _____ ZIP: _____

It's The Law

By Inspector Kyle W. Hill



PHOTOGRAPH BY GFC

Question: Is it legal to archery hunt in Florida with a poison pod?

Answer: No, it is unlawful to take or attempt to take any game with any drug or poison. The possession or use of arrows having explosive or drug administering heads while hunting is prohibited.

The poison pod is a rubber sleeve in which a chemical (usually "Anectine") is placed. The pod is slipped over the shaft of the arrow, immediately behind the broadhead. The chemical is released into the wound channel upon impact. Anectine causes paralysis of the muscles and the deer dies from suffocation.

Anectine is a dangerous drug and is classified as a controlled substance. This drug cannot be possessed without a prescription. Persons found in possession of pods while hunting or in the possession of Anectine face fines up to \$500 and/or one year in jail.

Most states prohibit the use of the pod because it is not only unsporting, but also very dangerous. Anyone accidentally shot with an pod-equipped arrow is doomed, even if the hit is in a nonvital area.

Question: Why can't rim-fire calibers, such as the 5mm and .22 magnum, be used on deer?

Answer: Although deer can be killed with rim-fire weapons, such calibers do not have sufficient power for a quick, clean harvest of a deer-sized animal. Most gun data tables list the muzzle energy of rim-fire and center-fire rounds. It is generally conceded that to have a clean harvest of a deer-sized animal around 1,000 foot pounds of energy is needed. A 5mm has 372 pounds and a .22 Winchester magnum has 355 foot pounds of energy at the muzzle. In contrast a .243 firing a 100 grain bullet has nearly 2,100 foot pounds of energy at the muzzle.

Without sufficient muzzle energy, even a well placed shot will only result in needless crippling of a game animal. The Game and Fresh Water Fish Commission must ensure that only proper calibers and loads are used so that game may be harvested humanely.

1988 - 89

HUNTING SEASONS

Florida is divided into three zones for the 1988-89 hunting season: Northwest Zone, Central Zone and South Zone. Season dates are as follows:

SEASON

NORTHWEST ZONE DATES

Archery	October 15-November 13, 1988.
Muzzleloading Gun	November 18-20, 1988.
Antlered Deer and Wild Hog	November 24-27, 1988 and December 10, 1988-February 15, 1989.
Antlerless Deer	December 17 and 18, 1988.
Fall Turkey	November 24-27, 1988 and December 10, 1988-February 1, 1989.
Bear	No open season in the Northwest Zone, except in the Apalachicola National Forest.
Quail and Squirrel	November 12, 1988-March 5, 1989.
Spring Turkey	March 18, 1989-April 23, 1989.
Special Post-Season Archery/ Muzzleloading Gun	February 16-26, 1989.

SEASON

CENTRAL ZONE DATES

Antlered Deer and Wild Hog	November 12, 1988-January 22, 1989.
Antlerless Deer	November 19 and 20, 1988.
Quail and Squirrel	November 12-March 5.
Fall Turkey	November 12, 1988-January 8, 1989.
Bear	November 12, 1988-January 8, 1989 in Baker and Columbia counties only. All <i>Sportsman's License</i> holders who bear hunt on the Apalachicola or Osceola wildlife management areas must first obtain a free <i>Bear Stamp</i> from the appropriate regional office of the Commission. For Apalachicola, this is the office in Panama City; for Osceola, this is the Lake City office. If you hunt bear on private lands, you do not need to obtain the stamp if you hold the <i>Sportsman's License</i> .
Spring Turkey	March 18, 1989-April 23, 1989.

SEASON

SOUTH ZONE DATES

Antlered Deer and Wild Hog	October 29, 1988-January 8, 1989.
Antlerless Deer	November 5 and 6, 1988.
Fall Turkey	October 29-December 25, 1988.
Bear	No open season in the South Zone.
Quail and Squirrel	November 12, 1988-March 5, 1989.
Spring Turkey	March 18, 1989-April 23, 1989.



1988-89 LICENSE AND STAMP REQUIREMENTS TO HUNT IN FLORIDA

License and Stamp Types and Cost*

Series SM
Resident Florida Sportsman's
License
\$40.00

Series K
Statewide Hunting License
Resident
\$11.00

Series T
Trapping License Stamp
Resident
\$25.00

Wildlife Management Area Stamp
Nonresident
\$10.00

Archery Stamp
Resident or Nonresident
\$5.00

Muzzleloading Gun Stamp
Resident or Nonresident
\$5.00

Florida Turkey Stamp
Resident or Nonresident
\$5.00

Florida Waterfowl Stamp
Resident or Nonresident
\$3.00

Migratory Bird Hunting and
Conservation Stamp
(federal "Duck Stamp")
Resident or Nonresident
\$10.00 at U.S. Postal Service
offices and some federal wildlife refuges.

Exemptions to License Requirements

The September-October issue incorrectly states that military personnel on active duty and on leave for 30 days or less are exempt from hunting permits. This exemption applies only to fishing licenses.

***Costs do not include issuance fees of 50 cents to \$1.00, depending on the license or stamp type, charged by county tax collectors and their subagents.**

Required For

(Optional) This new license series allows the holder to hunt or fish statewide and it includes the equivalent of the regular *Hunting License*, *Fishing License*, *Wildlife Management Area*, *Archery*, *Muzzleloading Gun*, *Florida Waterfowl* and *Florida Turkey* and *Bear* stamps. It does not include the federal "Duck Stamp." Trapping or any commercial privileges are not allowed with this license.

Required to take or attempt to take game or furbearing animals. For other privileges, special stamps may be required in addition to this stamp. These are listed below:

Required to trap furbearing mammals or to take furbearing mammals for commercial purposes by the use of a trap or gun.

Required—in addition to a *Hunting License*—to take or attempt to take game on a Type I wildlife management area.

Required—in addition to a *Hunting License*—to participate in any special archery or archery/muzzleloading gun season.

Required—in addition to a *Hunting License*—to participate in any special muzzleloading gun or archery/muzzleloading gun season.

Required—in addition to a *Hunting License*—to take or attempt to take any wild turkey.

Required—in addition to a *Hunting License*—to take or attempt to take waterfowl. A federal "Duck Stamp" is also required.

Required—in addition to a *Hunting License* and a *Florida Waterfowl Stamp*—to take or attempt to take waterfowl. This stamp allows entry into wildlife refuges, where an entry is charged.

Certain persons are exempt from license and stamp requirements. These include those who have certain handicaps (and who hold a free *Resident Disabled Person Hunting and Fishing License*), are less than 16 years of age, are more than 65 years of age (and who hold a free *Permanent Hunting and Fishing Certificate*), who are clients for retardation services of the Department of Health and Rehabilitative Services, persons hunting on their own or their spouse's homestead, and minor children hunting on their parent's homestead. See "Florida Hunting Handbook Regulations Summary for 1988-89," or check with your local tax collector office or subagent, or telephone a regional office of the Commission (listed on page 48) for details of these exemptions.

RESIDENT GAME BIRDS AND MAMMALS AND BAG LIMITS

Resident game birds are bobwhite quails and wild turkeys. Resident game mammals include white-tailed deer, gray squirrels, fox squirrels, rabbits, wild hogs (in designated areas only) and black bears (in designated areas only).

GAME SPECIES	DAILY BAG LIMIT	SEASON BAG LIMIT	POSSESSION LIMIT
Antlered Deer	2	none	3
Black Bear (100 pounds or more) All bears must be checked and tagged within 24 hours.	1	1	1
Wild Hog (with a shoulder height of 15 or more inches, only where classified as a game species)	1	none	2
Gray Squirrel, Rabbit, Bobwhite Quail	12	none	24
Fox Squirrel	2	none	4
Raccoon, Opossum, Coyote, Nutria, Skunk and Beaver		No closed season and no bag limits or possession limits.	
Bobcat and Otter		May be taken December 1, 1988 through March 1, 1989. See "Florida Hunting Handbook and Regulations Summary for 1988-89" for limits.	
Fall Turkey (either sex)	1	2	2
Spring Turkey (bearded turkeys only)	1	2	2
Unprotected Birds Mammals		English sparrow, European starling; and armadillo, Norway rat, black rat, house mice.	

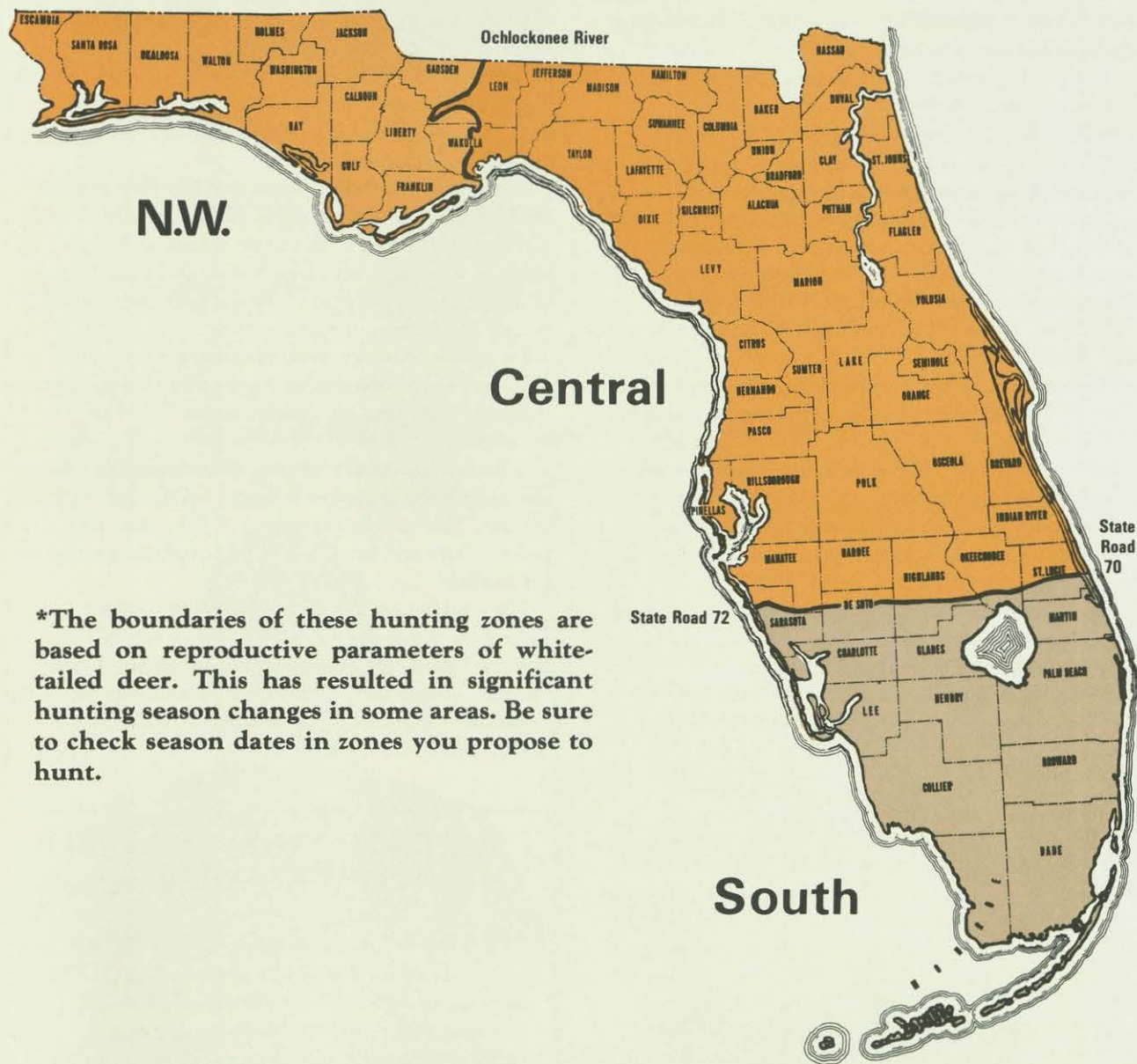
MIGRATORY BIRD HUNTING SEASONS AND BAG LIMITS

Migratory game birds are all wild species of ducks, geese, brant, coots, moorhens, rails, snipe, woodcock, crow, morning and white-winged doves. There is no open season in Florida on geese, brant, purple gallinule or canvasback duck. The special scaup season has been cancelled. The first phase of the duck and coot season is November 23-27. The second phase is December 15 to January 8.

Coot	15	30
Duck	3	The daily bag limit is three ducks, with restrictions on certain species. It is prohibited to take, or attempt to take, brant, geese, or canvasback duck.
Merganser	5	Only one of the five may be a hooded merganser.
Scaup		Scaup Season is cancelled.

1988 - 1989

Hunting Zone Boundaries



*The boundaries of these hunting zones are based on reproductive parameters of white-tailed deer. This has resulted in significant hunting season changes in some areas. Be sure to check season dates in zones you propose to hunt.

Conservation Update

Compiled by Andrea H. Blount

Endangered Species Act Now Reauthorized

Called "the most progressive wildlife protection law in the world," an improved Endangered Species Act has recently been passed by Congress. The bill was first passed in 1973 and came up for reauthorization in 1985. Although the bill cleared the House nearly a year ago, the funding was held down to 1985 levels during the reauthorization process.

The newly strengthened Endangered Species Act has a two-fold increase in funding as well as increased protection for hundreds of threatened and endangered species. The funding is expected to revitalize several waning state programs which lacked federal aid.

Since hundreds of threatened and endangered species were never recognized as such, it will be necessary to monitor and reduce the backlog of paperwork. Recognition of needed protection for nearly 1,000 "candidate species" of various plants and animals will also be monitored.

The bill was further enhanced by raising the ceiling on fines to \$50,000 for individuals who violate the law. The first \$300,000 in fines that the U.S. Fish and Wildlife Service (FWS) collects from violators will go into an informant reward fund. The remainder of collected fines will be used in endangered species restoration and management programs, strengthening the "abuser pays" concept.

The bill requires that recovery plans be drawn up for bears, eagles, salamanders and ferns according to an update published in the *Audubon Activist* newspaper. Protection against the removal or destruction of endangered plants will be increased, helping to support state rare plant programs.

Considering the delays and potential setbacks, most conservation organizations are pleased with the cooperative state-federal management programs and view the bill as greatly improved environmental legislation.



This Gift Is "For the Birds"

Bird houses and bird feeders make great gifts for the entire family to enjoy. Take a tip from "Planting a Refuge for Wildlife" and look for bird houses designed for a specific species — not just "for the birds." Reputable nurseries are good sources for well constructed houses and feeders.

When making your selection, look for durable woods such as cypress, western cedar or exterior grade plywood. Avoid using plastic or metal bird houses, since they absorb too much heat. The exception to this rule is the anodized aluminum purple martin houses designed to allow sufficient ventilation.

Landscape with native plants and trees for another valuable gift that will "keep on giving" to your friends and family. Planting native trees, shrubs and vines will enhance your yard, attracting native and migratory birds. Birds will be tempted by the fruit, seeds and berries of a variety of native plants.

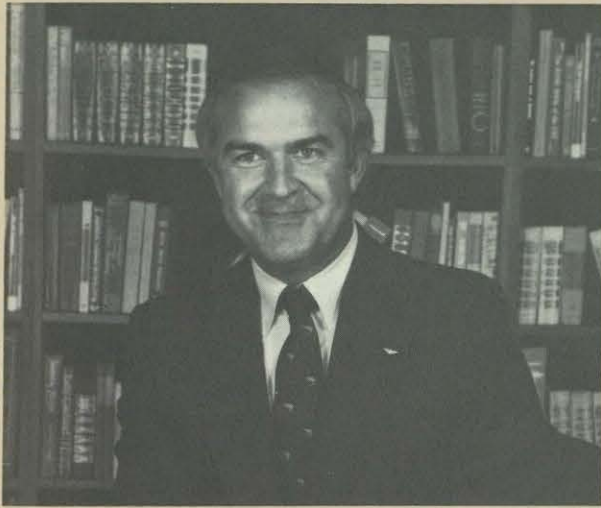
Evergreen cedar, cypress, hackberry, maple and mulberry trees grow well in most of Florida and present tempting fruit, seed cones and berries. Some of the many shrubs and small trees that grow well in most of Florida include American beautyberry, prickly pear cactus, elderberry, pokeweed, wax myrtle and Virginia creeper. This is only a sampling of the native plants that provide fruit and berries or good cover and nesting sites for wildlife.

For a more complete listing, you can request individual copies of "Planting a Refuge for Wildlife" by sending a post card request to the Nongame Wildlife Program, Game and Fresh Water Fish Commission, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Copies are limited.

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Thomas M. Goodwin

Perhaps above all else Thomas M. Goodwin will be remembered as a true Southern gentleman. Others always came first in his book and his gentle, caring ways affected the lives of hundreds of people within the Commission, his church and the conservation community.

Tommy died on September 11 following his third neurological surgery in five years. The courage, positive attitude, caring and humor he demonstrated during these difficult years served as an inspiration to all who knew him.

Raised in the heartland of southern hunting plantations, Tommy developed a love of the outdoors and wildlife that followed him throughout his life.

After graduating from Auburn University, he was commissioned as a second lieutenant in the U.S. Marine Corps. Following flight training, he reported to South Vietnam where he served as a helicopter gunship pilot. Tommy was released from active duty as a captain after receiving 23 medals for excellence, bravery and heroism, including the Navy and Marine Corps Medal, Air Medal, Bronze Star and Navy Commendation Medal.

Tommy returned to his southern homeland to work as a wildlife manager for Pineland Plantation near Albany, Georgia. He later enrolled in the graduate wildlife program at the University of Florida and conducted his master's thesis on the American Alligator. He accepted a position as a wildlife biologist at the Commission's Bureau of Wildlife Research Lab in Gainesville, where he published much on the life history and management of the alligator.

In 1979 he came to the Commission's central office in Tallahassee to serve as the Chief for the Bureau of Wildlife Resources and since 1985 served as the Assistant Chief of the Bureau of Wildlife Research.

Tommy Goodwin was a dedicated steward and friend of wildlife resources in Florida, and his contributions will serve well the wildlife managers of future generations. To those who knew him, Tommy was more than a talented wildlife biologist and more than a friend. We will fondly remember him in the warmth of a smile, the gallantry of sword and dress blues, the power of gamefish in the deep waters, the burst of quail on the wing and the wind in Southern pines.

—Vic Heller

In Memory of Two Conservationists



Ben Williamson

The Commission and general public lost a great friend of conservation with the death of Ben Williamson on September 11, 1988.

Officer Williamson passed away after an extended battle with cancer. He worked actively in the field until he was physically unable to continue. His dogged determination and cheerful spirit became an inspiration to all.

Employed by the Commission's Division of Law Enforcement in 1955, his first area of assignment was Bonita Springs. He worked

there until 1963, when he left the Commission for a few years. He was re-employed in 1968 in Franklin County. Lanark Village became his home and base of operations for the remainder of his career.

Officer Williamson was a forerunner in conservation techniques; his real love was nongame wildlife. At the time when most wildlife officers were working on the protection of game species, Officer Williamson also looked after the interest of brown pelicans, birds of prey and endangered and threatened species.

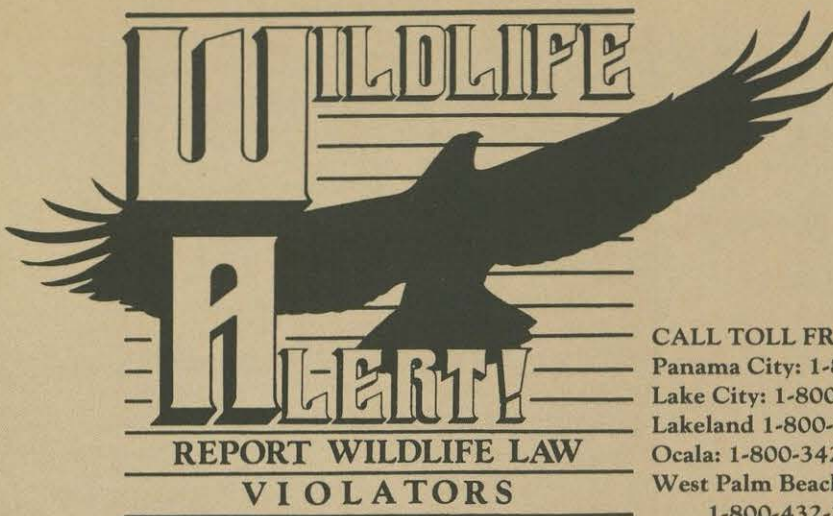
Although his efforts to protect the brown pelican were not widely known, they were effective. He once remarked to a supervisor that there were less than 40 brown pelicans in the Panhandle when he came to work in 1968. By providing supplemental food for the birds during cold winters and maintaining a "zero tolerance" for pelican shooting, Officer Williamson helped bring the birds back from the brink of extinction in the Panhandle.

Considered "ahead of his time" in some areas of law enforcement skills, he was an expert shot with a revolver, and won many matches.

Officer Williamson and his wife, Grace, dedicated much time to rehabilitation of injured wildlife, including pelicans, peregrine falcons, ospreys and bald eagles. He had a special love for birds of prey and would always let interested "birders" know when the hawk migration was in full swing over St. George Island and other coastal areas.

Ben's family, Grace and two sons, are exceptionally proud of the legacy Ben Williamson left to the state of Florida. Through his dedication to the protection of our resources, future generations will enjoy the fruits of his labor for decades to come.

—Inspector Kyle Hill



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Floridana

The great horned owl is one of nature's most impressive stealth bombers. Fitted with specially muffled wings, keen night vision, and very sensitive hearing, it glides with deathly silence through the late-night dreamscape, snatching prey completely unawares.

Observing the power, precision, and beauty of this bird's flight can be a rewarding experience for many Floridians. The bird is well distributed throughout the state, and in some instances it is extremely tolerant of human intrusions into its preferred habitat of mature, open pines and rangeland. Certain residential areas with appropriate tree cover and large lots provide habitat for a pair of great horneds, and their subdued, tremulous calls can add a

rather chilling edge to a nocturnal adagio.

The great horned owl is easily Florida's largest owl, standing a full two feet tall with a wingspan nearly double that height. The owl earns the reputation of a winged tiger with its majestic bearing and untameable ferocity. E. L. Seaton, an early naturalist, called the great horned owl "the most pronounced and savage of the birds of prey."

Yet, these owls are also capable of extreme tenderness during their mating season. In Florida the mating season begins with the coming of cold weather in late December, January, and early

February. The prolonged duet of male and female birds initiates the courtship. When the pair comes together an extended ceremony begins; the male carefully strokes the female with his bill, bowing solemnly, and then continues to stroke and caress.

The nesting period is much prolonged. Incubation of eggs lasts upwards of 30 days, and it may be early April before the young are ready to test their wings upon the cool night air.

—Jim Cox



